

SEQUENCE LISTING

<110> Board of Regents, The University of Texas System
 <120> HUMAN-ENZYME MEDIATED DEPLETION OF HOMOCYSTEINE FOR TREATING
 PATIENTS WITH HYPERHOMOCYSTEINEMIA AND HOMOCYSTINURIA
 <130> UTFB.P1138WO
 <140> not yet assigned
 <141> 2018-05-11
 <150> US 62/505,493
 <151> 2017-05-12
 <160> 66
 <170> PatentIn version 3.5
 <210> 1
 <211> 405
 <212> PRT
 <213> Homo sapiens
 <400> 1

Met Gln Glu Lys Asp Ala Ser Ser Gln Gly Phe Leu Pro His Phe Gln
 1 5 10 15

His Phe Ala Thr Gln Ala Ile His Val Gly Gln Asp Pro Glu Gln Trp
 20 25 30

Thr Ser Arg Ala Val Val Pro Pro Ile Ser Leu Ser Thr Thr Phe Lys
 35 40 45

Gln Gly Ala Pro Gly Gln His Ser Gly Phe Glu Tyr Ser Arg Ser Gly
 50 55 60

Asn Pro Thr Arg Asn Cys Leu Glu Lys Ala Val Ala Ala Leu Asp Gly
 65 70 75 80

Ala Lys Tyr Cys Leu Ala Phe Ala Ser Gly Leu Ala Ala Thr Val Thr
 85 90 95

Ile Thr His Leu Leu Lys Ala Gly Asp Gln Ile Ile Cys Met Asp Asp
 100 105 110

Val Tyr Gly Gly Thr Asn Arg Tyr Phe Arg Gln Val Ala Ser Glu Phe
 115 120 125

Gly Leu Lys Ile Ser Phe Val Asp Cys Ser Lys Ile Lys Leu Leu Glu
 130 135 140

Ala Ala Ile Thr Pro Glu Thr Lys Leu Val Trp Ile Glu Thr Pro Thr
 145 150 155 160

Asn Pro Thr Gln Lys Val Ile Asp Ile Glu Gly Cys Ala His Ile Val
 165 170 175

His Lys His Gly Asp Ile Ile Leu Val Val Asp Asn Thr Phe Met Ser
 180 185 190

Pro Tyr Phe Gln Arg Pro Leu Ala Leu Gly Ala Asp Ile Ser Met Tyr
 195 200 205

Ser Ala Thr Lys Tyr Met Asn Gly His Ser Asp Val Val Met Gly Leu
 210 215 220

Val Ser Val Asn Cys Glu Ser Leu His Asn Arg Leu Arg Phe Leu Gln
 225 230 235 240

Asn Ser Leu Gly Ala Val Pro Ser Pro Ile Asp Cys Tyr Leu Cys Asn
 245 250 255

Arg Gly Leu Lys Thr Leu His Val Arg Met Glu Lys His Phe Lys Asn
 260 265 270

Gly Met Ala Val Ala Gln Phe Leu Glu Ser Asn Pro Trp Val Glu Lys
 275 280 285

Val Ile Tyr Pro Gly Leu Pro Ser His Pro Gln His Glu Leu Val Lys
290 295 300 3

Arg Gln Cys Thr Gly Cys Thr Gly Met Val Thr Phe Tyr Ile Lys Gly
305 310 315 320

Thr Leu Gln His Ala Glu Ile Phe Leu Lys Asn Leu Lys Leu Phe Thr
325 330 335

Leu Ala Glu Ser Leu Gly Gly Phe Glu Ser Leu Ala Glu Leu Pro Ala
340 345 350

Ile Met Thr His Ala Ser Val Leu Lys Asn Asp Arg Asp Val Leu Gly
355 360 365

Ile Ser Asp Thr Leu Ile Arg Leu Ser Val Gly Leu Glu Asp Glu Glu
370 375 380

Asp Leu Leu Glu Asp Leu Asp Gln Ala Leu Lys Ala Ala His Pro Pro
385 390 395 400

Ser Gly Ser His Ser
405

<210> 2
<211> 405
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic polypeptide

<400> 2

Met Gln Glu Lys Asp Ala Ser Ser Gln Gly Phe Leu Pro His Phe Gln
1 5 10 15

His Phe Ala Thr Gln Ala Ile His Val Gly Gln Asp Pro Glu Gln Trp
20 25 30

Thr Ser Arg Ala Val Val Pro Pro Ile Ser Leu Ser Thr Thr Phe Lys
 35 40 45

Gln Gly Ala Pro Gly Gln His Ser Gly Phe Asn Tyr Ser Arg Ser Gly
 50 55 60

Asn Pro Thr Arg Asn Cys Leu Glu Lys Ala Val Ala Ala Leu Asp Gly
 65 70 75 80

Ala Lys Tyr Cys Leu Ala Phe Ala Ser Gly Leu Ala Ala Thr Val Thr
 85 90 95

Ile Thr His Leu Leu Lys Ala Gly Asp Gln Ile Ile Cys Met Asp Asp
 100 105 110

Val Tyr Gly Gly Thr Asn Leu Tyr Phe Arg Gln Val Ala Ser Glu Phe
 115 120 125

Gly Leu Lys Ile Ser Phe Val Asp Cys Ser Lys Ile Lys Leu Leu Glu
 130 135 140

Ala Ala Ile Thr Pro Glu Thr Lys Leu Val Trp Ile Glu Thr Pro Thr
 145 150 155 160

Asn Pro Thr Gln Lys Val Ile Asp Ile Glu Gly Cys Ala His Ile Val
 165 170 175

His Lys His Gly Asp Ile Ile Leu Val Val Asp Asn Thr Phe Met Ser
 180 185 190

Pro Tyr Phe Gln Arg Pro Leu Ala Leu Gly Ala Asp Ile Ser Met Tyr
 195 200 205

Ser Ala Thr Lys Tyr Met Asn Gly His Ser Asp Val Val Met Gly Leu
 210 215 220

Val Ser Val Asn Cys Glu Ser Leu His Asn Arg Leu Arg Phe Leu Gln
 225 230 235 240

Asn Ser Leu Gly Ala Val Pro Ser Pro Ile Asp Cys Tyr Leu Cys Asn
 245 250 255

Arg Gly Leu Lys Thr Leu His Val Arg Met Glu Lys His Phe Lys Asn
 260 265 270

Gly Met Ala Val Ala Gln Phe Leu Glu Ser Asn Pro Trp Val Glu Lys
 275 280 285

Val Ile Tyr Pro Gly Leu Pro Ser His Pro Gln His Glu Leu Val Lys
 290 295 300

Arg Gln Cys Thr Gly Cys Thr Gly Met Val Thr Phe Tyr Ile Lys Gly
 305 310 315 320

Thr Leu Gln His Ala Glu Ile Phe Leu Lys Asn Leu Lys Leu Phe Thr
 325 330 335

Leu Ala Val Ser Leu Gly Gly Phe Glu Ser Leu Ala Glu Leu Pro Ala
 340 345 350

Ile Met Thr His Ala Ser Val Leu Lys Asn Asp Arg Asp Val Leu Gly
 355 360 365

Ile Ser Asp Thr Leu Ile Arg Leu Ser Val Gly Leu Glu Asp Glu Glu
 370 375 380

Asp Leu Leu Glu Asp Leu Asp Gln Ala Leu Lys Ala Ala His Pro Pro
 385 390 395 400

Ser Gly Ser His Ser
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<210> 3

<211> 405
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 <213> Artificial Sequence

<220>
 <223> Synthetic polypeptide

<400> 3

Met Gln Glu Lys Asp Ala Ser Ser Gln Gly Phe Leu Pro His Phe Gln
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His Phe Ala Thr Gln Ala Ile His Val Gly Gln Asp Pro Glu Gln Trp
 20 25 30

Thr Ser Arg Ala Val Val Pro Pro Ile Ser Leu Ser Thr Thr Phe Lys
 35 40 45

Gln Gly Ala Pro Gly Gln His Ser Gly Phe Asn Tyr Ser Arg Leu Gly
 50 55 60

Asn Pro Thr Arg Asn Cys Leu Glu Lys Ala Val Ala Ala Leu Asp Gly
 65 70 75 80

Ala Lys Tyr Cys Leu Ala Phe Ala Ser Gly Met Ala Ala Thr Val Thr
 85 90 95

Ile Thr His Leu Leu Lys Ala Gly Asp Gln Ile Ile Cys Met Asp Asp
 100 105 110

Val Tyr Gly Gly Thr Asn Leu Tyr Phe Arg Gln Val Ala Ser Glu Phe
 115 120 125

Gly Leu Lys Ile Ser Phe Val Asp Cys Ser Lys Ile Lys Leu Leu Glu
 130 135 140

Ala Ala Ile Thr Pro Glu Thr Lys Leu Val Trp Ile Glu Thr Pro Thr
 145 150 155 160

Asn Pro Thr Gln Lys Val Ile Asp Ile Glu Gly Cys Ala His Ile Val
165 170 175

His Lys His Gly Asp Ile Ile Leu Val Val Asp Asn Thr Phe Met Ser
180 185 190

Pro Tyr Phe Gln Arg Pro Leu Ala Leu Gly Ala Asp Ile Ser Met Tyr
195 200 205

Ser Ala Thr Lys Tyr Met Asn Gly His Ser Asp Val Val Met Gly Leu
210 215 220

Val Ser Val Asn Cys Glu Ser Leu His Asn Arg Leu Arg Phe Leu Gln
225 230 235 240

Asn Ser Leu Gly Ala Val Pro Ser Pro Ile Asp Cys Tyr Leu Cys Asn
245 250 255

Arg Gly Leu Lys Thr Leu His Val Arg Met Glu Arg His Phe Lys Asn
260 265 270

Gly Met Ala Val Ala Gln Phe Leu Glu Ser Asn Pro Trp Val Glu Lys
275 280 285

Val Ile Tyr Pro Gly Leu Pro Ser His Pro Gln His Glu Leu Val Lys
290 295 300

Arg Gln Cys Thr Gly Cys Gly Gly Met Val Thr Phe Tyr Ile Lys Gly
305 310 315 320

Thr Leu Gln His Ala Glu Ile Phe Leu Lys Asn Leu Lys Leu Phe Thr
325 330 335

Leu Ala Val Ser Leu Gly Gly Phe Glu Ser Leu Ala Glu Leu Pro Ala
340 345 350

Ser Met Thr His Ala Ser Val Leu Lys Asn Asp Arg Asp Val Leu Gly

355

360

365

Ile Ser Asp Thr Leu Ile Arg Leu Ser Val Gly Leu Glu Asp Glu Glu
 370 375 380

Asp Leu Leu Glu Asp Leu Asp Gln Ala Leu Lys Ala Ala His Pro Pro
 385 390 395 400

Ser Gly Ser His Ser
 405

<210> 4

<211> 405

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic polypeptide

<400> 4

Met Gln Glu Lys Asp Ala Ser Ser Gln Gly Phe Leu Pro His Phe Gln
 1 5 10 15

His Phe Ala Thr Gln Ala Ile His Val Gly Gln Asp Pro Glu Gln Trp
 20 25 30

Thr Ser Arg Ala Val Val Pro Pro Ile Ser Leu Ser Thr Thr Phe Lys
 35 40 45

Gln Gly Ala Pro Gly Gln His Ser Gly Phe Ile Tyr Ser Arg Leu Gly
 50 55 60

Asn Pro Thr Arg Asn Cys Leu Glu Lys Ala Val Ala Ala Leu Asp Gly
 65 70 75 80

Ala Lys Tyr Cys Leu Ala Phe Ala Ser Gly Met Ala Ala Thr Val Thr
 85 90 95

Ile Thr His Leu Leu Lys Ala Gly Asp Gln Ile Ile Cys Met Asp Asp
 100 105 110

Val Tyr Gly Gly Thr Asn Leu Tyr Phe Arg Gln Val Ala Ser Glu Phe
 115 120 125

Gly Leu Lys Ile Ser Phe Val Asp Cys Ser Lys Ile Lys Leu Leu Glu
 130 135 140

Ala Ala Ile Thr Pro Glu Thr Lys Leu Val Trp Ile Glu Thr Pro Thr
 145 150 155 160

Asn Pro Thr Gln Lys Val Ile Asp Ile Glu Gly Cys Ala His Ile Val
 165 170 175

His Lys His Gly Asp Ile Ile Leu Val Val Asp Asn Thr Phe Met Ser
 180 185 190

Pro Tyr Phe Gln Arg Pro Leu Ala Leu Gly Ala Asp Ile Ser Met Tyr
 195 200 205

Ser Ala Thr Lys Tyr Met Asn Gly His Ser Asp Val Val Met Gly Leu
 210 215 220

Val Ser Val Asn Cys Glu Ser Leu His Asn Arg Leu Arg Phe Leu Gln
 225 230 235 240

Asn Ser Leu Gly Ala Val Pro Ser Pro Ile Asp Cys Tyr Leu Cys Asn
 245 250 255

Arg Gly Leu Lys Thr Leu His Val Arg Met Glu Arg His Phe Lys Asn
 260 265 270

Gly Met Ala Val Ala Gln Phe Leu Glu Ser Asn Pro Trp Val Glu Lys
 275 280 285

Val Ile Tyr Pro Gly Leu Pro Ser His Pro Gln His Glu Leu Val Lys

290 295 10 300
 Arg Gln Cys Thr Gly Cys Gly Gly Met Val Thr Phe Tyr Ile Lys Gly
 305 310 315 320
 Thr Leu Gln His Ala Glu Ile Phe Leu Lys Asn Leu Lys Leu Phe Thr
 325 330 335
 Leu Ala Val Ser Leu Gly Gly Phe Glu Ser Leu Ala Glu Leu Pro Ala
 340 345 350
 Ser Met Thr His Ala Ser Val Leu Lys Asn Asp Arg Asp Val Leu Gly
 355 360 365
 Ile Ser Asp Thr Leu Ile Arg Leu Ser Val Gly Leu Glu Asp Glu Glu
 370 375 380
 Asp Leu Leu Glu Asp Leu Asp Gln Ala Leu Lys Ala Ala His Pro Pro
 385 390 395 400
 Ser Gly Ser His Ser
 405

<210> 5
 <211> 405
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic polypeptide

<400> 5

Met Gln Glu Lys Asp Ala Ser Ser Gln Gly Phe Leu Pro His Phe Gln
 1 5 10 15

His Phe Ala Thr Gln Ala Ile His Val Gly Gln Asp Pro Glu Gln Trp
 20 25 30

Thr Ser Arg Ala Val Val Pro Pro Ile Ser Leu Ser Thr Thr Phe Lys
 35 40 45 11

Gln Gly Ala Pro Gly Gln His Ser Gly Phe Asn Tyr Ser Arg Leu Gly
 50 55 60

Asn Pro Thr Arg Asn Cys Leu Glu Lys Ala Val Ala Ala Leu Asp Gly
 65 70 75 80

Ala Lys Tyr Cys Leu Ala Phe Ala Ser Gly Met Ala Ala Thr Val Thr
 85 90 95

Ile Thr His Leu Leu Lys Ala Gly Asp Gln Ile Ile Cys Met Asp Asp
 100 105 110

Val Tyr Gly Gly Thr Asn Ala Tyr Phe Arg Gln Val Ala Ser Glu Phe
 115 120 125

Gly Leu Lys Ile Ser Phe Val Asp Cys Ser Lys Ile Lys Leu Leu Glu
 130 135 140

Ala Ala Ile Thr Pro Glu Thr Lys Leu Val Trp Ile Glu Thr Pro Thr
 145 150 155 160

Asn Pro Thr Gln Lys Val Ile Asp Ile Glu Gly Cys Ala His Ile Val
 165 170 175

His Lys His Gly Asp Ile Ile Leu Val Val Asp Asn Thr Phe Met Ser
 180 185 190

Pro Tyr Phe Gln Arg Pro Leu Ala Leu Gly Ala Asp Ile Ser Met Tyr
 195 200 205

Ser Ala Thr Lys Tyr Met Asn Gly His Ser Asp Val Val Met Gly Leu
 210 215 220

Val Ser Val Asn Cys Glu Ser Leu His Asn Arg Leu Arg Phe Leu Gln

225										12									
					230					235									240
Asn	Ser	Leu	Gly	Ala	Val	Pro	Ser	Pro	Ile	Asp	Cys	Tyr	Leu	Cys	Asn				
				245					250					255					
Arg	Gly	Leu	Lys	Thr	Leu	His	Val	Arg	Met	Glu	Arg	His	Phe	Lys	Asn				
			260					265					270						
Gly	Met	Ala	Val	Ala	Gln	Phe	Leu	Glu	Ser	Asn	Pro	Trp	Val	Glu	Lys				
		275					280					285							
Val	Ile	Tyr	Pro	Gly	Leu	Pro	Ser	His	Pro	Gln	His	Glu	Leu	Val	Lys				
	290					295					300								
Arg	Gln	Cys	Thr	Gly	Cys	Gly	Gly	Met	Val	Thr	Phe	Tyr	Ile	Lys	Gly				
305					310					315					320				
Thr	Leu	Gln	His	Ala	Glu	Ile	Phe	Leu	Lys	Asn	Leu	Lys	Leu	Phe	Thr				
				325					330					335					
Leu	Ala	Val	Ser	Leu	Gly	Gly	Phe	Glu	Ser	Leu	Ala	Glu	Leu	Pro	Ala				
			340					345					350						
Ser	Met	Thr	His	Ala	Ser	Val	Leu	Lys	Asn	Asp	Arg	Asp	Val	Leu	Gly				
		355					360					365							
Ile	Ser	Asp	Thr	Leu	Ile	Arg	Leu	Ser	Val	Gly	Leu	Glu	Asp	Glu	Glu				
	370					375					380								
Asp	Leu	Leu	Glu	Asp	Leu	Asp	Gln	Ala	Leu	Lys	Ala	Ala	His	Pro	Pro				
385					390					395					400				
Ser	Gly	Ser	His	Ser															
				405															

<210> 6
 <211> 405

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic polypeptide

<400> 6

Met	Gln	Glu	Lys	Asp	Ala	Ser	Ser	Gln	Gly	Phe	Leu	Pro	His	Phe	Gln
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His	Phe	Ala	Thr	Gln	Ala	Ile	His	Val	Gly	Gln	Asp	Pro	Glu	Gln	Trp
			20					25					30		

Thr	Ser	Arg	Ala	Val	Val	Pro	Pro	Ile	Ser	Leu	Ser	Thr	Thr	Phe	Lys
		35					40					45			

Gln	Gly	Ala	Pro	Gly	Gln	His	Ser	Gly	Phe	Ile	Tyr	Ser	Arg	Leu	Gly
	50					55					60				

Asn	Pro	Thr	Arg	Asn	Cys	Leu	Glu	Lys	Ala	Val	Ala	Ala	Leu	Asp	Gly
65					70					75					80

Ala	Lys	Tyr	Cys	Leu	Ala	Phe	Ala	Ser	Gly	Met	Ala	Ala	Thr	Val	Thr
				85					90					95	

Ile	Thr	His	Leu	Leu	Lys	Ala	Gly	Asp	Gln	Ile	Ile	Cys	Met	Asp	Asp
			100					105					110		

Val	Tyr	Gly	Gly	Thr	Asn	Ala	Tyr	Phe	Arg	Gln	Val	Ala	Ser	Glu	Phe
		115					120					125			

Gly	Leu	Lys	Ile	Ser	Phe	Val	Asp	Cys	Ser	Lys	Ile	Lys	Leu	Leu	Glu
	130						135				140				

Ala	Ala	Ile	Thr	Pro	Glu	Thr	Lys	Leu	Val	Trp	Ile	Glu	Thr	Pro	Thr
145					150					155					160

Asn	Pro	Thr	Gln	Lys	Val	Ile	Asp	Ile	Glu	Gly	Cys	Ala	His	Ile	Val
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165

170

175

His Lys His Gly Asp Ile Ile Leu Val Val Asp Asn Thr Phe Met Ser
 180 185 190

Pro Tyr Phe Gln Arg Pro Leu Ala Leu Gly Ala Asp Ile Ser Met Tyr
 195 200 205

Ser Ala Thr Lys Tyr Met Asn Gly His Ser Asp Val Val Met Gly Leu
 210 215 220

Val Ser Val Asn Cys Glu Ser Leu His Asn Arg Leu Arg Phe Leu Gln
 225 230 235 240

Asn Ser Leu Gly Ala Val Pro Ser Pro Ile Asp Cys Tyr Leu Cys Asn
 245 250 255

Arg Gly Leu Lys Thr Leu His Val Arg Met Glu Arg His Phe Lys Asn
 260 265 270

Gly Met Ala Val Ala Gln Phe Leu Glu Ser Asn Pro Trp Val Glu Lys
 275 280 285

Val Ile Tyr Pro Gly Leu Pro Ser His Pro Gln His Glu Leu Val Lys
 290 295 300

Arg Gln Cys Thr Gly Cys Gly Gly Met Val Thr Phe Tyr Ile Lys Gly
 305 310 315 320

Thr Leu Gln His Ala Glu Ile Phe Leu Lys Asn Leu Lys Leu Phe Thr
 325 330 335

Leu Ala Val Ser Leu Gly Gly Phe Glu Ser Leu Ala Glu Leu Pro Ala
 340 345 350

Ser Met Thr His Ala Ser Val Leu Lys Asn Asp Arg Asp Val Leu Gly
 355 360 365

Ile Ser Asp Thr Leu Ile Arg Leu Ser Val Gly Leu Glu Asp Glu Glu
 370 375 380

Asp Leu Leu Glu Asp Leu Asp Gln Ala Leu Lys Ala Ala His Pro Pro
 385 390 395 400

Ser Gly Ser His Ser
 405

<210> 7
 <211> 405
 <212> PRT
 <213> Pongo abelii

<400> 7

Met Gln Glu Lys Glu Ala Ser Ser Gln Gly Phe Leu Pro His Phe Gln
 1 5 10 15

His Phe Ala Thr Gln Ala Ile His Val Gly Gln Glu Pro Glu Gln Trp
 20 25 30

Thr Ser Arg Ala Val Val Pro Pro Ile Ser Pro Ser Val Thr Phe Lys
 35 40 45

Gln Gly Ala Pro Gly Gln His Ser Gly Phe Val Tyr Ser Arg Ser Gly
 50 55 60

Asn Pro Thr Arg Asn Cys Leu Glu Lys Ala Val Ala Ala Leu Asp Gly
 65 70 75 80

Ala Lys Tyr Cys Leu Ala Phe Ala Ser Gly Leu Ala Ala Thr Val Thr
 85 90 95

Ile Thr His Leu Leu Lys Ala Gly Asp Gln Ile Ile Cys Met Asp Asp
 100 105 110

Val Tyr Ala Gly Thr Asn Arg Tyr Phe Arg Gln Val Ala Ser Glu Phe
115 120 125 16

Gly Leu Lys Ile Ser Phe Val Asp Cys Ser Lys Ile Lys Leu Leu Glu
130 135 140

Ala Ala Ile Thr Pro Glu Thr Lys Leu Val Trp Ile Glu Thr Pro Thr
145 150 155 160

Asn Pro Thr Gln Lys Met Thr Asp Ile Glu Ala Cys Ala His Ile Val
165 170 175

His Lys His Gly Asp Ile Ile Leu Val Val Asp Asn Thr Phe Met Ser
180 185 190

Pro Tyr Phe Gln Arg Pro Leu Ala Leu Gly Ala Asp Ile Cys Met Cys
195 200 205

Ser Ala Thr Lys Tyr Met Asn Gly His Ser Asp Val Val Met Gly Leu
210 215 220

Val Ser Val Asn Cys Glu Ser Leu Tyr Asn Arg Leu Arg Phe Leu Gln
225 230 235 240

Asn Ser Leu Gly Ala Val Pro Ser Pro Ile Asp Cys Tyr Leu Cys Asn
245 250 255

Arg Gly Leu Lys Thr Leu Gln Val Arg Met Glu Lys His Phe Lys Asn
260 265 270

Gly Met Ala Val Ala Gln Phe Leu Glu Ser Asn Pro Trp Val Glu Lys
275 280 285

Val Ile Tyr Pro Gly Leu Pro Ser His Pro Gln His Glu Leu Val Lys
290 295 300

Arg Gln Cys Thr Gly Cys Thr Gly Met Val Thr Phe Tyr Ile Lys Gly

305 310 17 315 320

Thr Leu Gln His Ala Glu Ile Phe Leu Lys Asn Leu Lys Leu Phe Thr
325 330 335

Leu Ala Glu Ser Leu Gly Gly Phe Glu Ser Leu Val Glu Leu Pro Ala
340 345 350

Val Met Thr His Ala Ser Val Leu Lys Lys Asp Arg Asp Val Leu Gly
355 360 365

Ile Ser Asp Thr Leu Ile Arg Leu Ser Val Gly Leu Glu Asp Glu Glu
370 375 380

Asp Leu Leu Glu Asp Leu Asp Gln Ala Leu Lys Ala Ala His Pro Pro
385 390 395 400

Ser Gly Ser His Ser
405

<210> 8
<211> 405
<212> PRT
<213> Macaca fascicularis

<400> 8

Met Gln Glu Lys Asp Ala Ser Ser Gln Gly Phe Leu Pro His Phe Gln
1 5 10 15

His Phe Ala Thr Gln Ala Ile His Val Gly Gln Glu Pro Glu Gln Trp
20 25 30

Thr Ser Arg Ala Val Val Pro Leu Ile Ser Leu Ser Thr Thr Phe Lys
35 40 45

Gln Ala Ala Pro Gly Gln His Ser Gly Phe Glu Tyr Ser Arg Ser Gly
50 55 60

Asn Pro Thr Arg Asn Cys Leu Glu Lys Ala Val Ala Ala Leu Asp Gly
65 70 75 80

Ala Lys Tyr Cys Leu Ala Phe Ala Ser Gly Leu Ala Ala Thr Val Thr
85 90 95

Ile Thr His Leu Leu Lys Ala Gly Asp Gln Ile Ile Cys Met Asp Asp
100 105 110

Val Tyr Gly Gly Thr Asn Arg Tyr Phe Arg Gln Val Ala Ser Glu Phe
115 120 125

Gly Leu Lys Ile Ser Phe Val Asp Cys Ser Lys Ile Lys Leu Leu Glu
130 135 140

Ala Ala Ile Thr Pro Glu Thr Lys Leu Val Trp Ile Glu Thr Pro Thr
145 150 155 160

Asn Pro Val Leu Lys Met Ile Asp Ile Glu Ala Cys Ala His Ile Val
165 170 175

His Lys Arg Gly Asp Ile Ile Leu Val Val Asp Asn Thr Phe Met Ser
180 185 190

Pro Tyr Phe Gln Arg Pro Leu Ala Leu Gly Ala Asp Ile Cys Met Cys
195 200 205

Ser Ala Thr Lys Tyr Met Asn Gly His Ser Asp Val Val Met Gly Leu
210 215 220

Val Ser Val Asn Cys Glu Arg Leu His Asn Arg Leu Arg Phe Leu Gln
225 230 235 240

Asn Ser Leu Gly Ala Val Pro Ser Pro Leu Asp Cys Tyr Leu Cys Asn
245 250 255

Arg Gly Leu Lys Thr Leu His Val Arg Met Glu Lys His Phe Lys Asn
260 265 270

Gly Met Ala Val Ala Gln Phe Leu Glu Ser Asn Pro Gly Val Glu Lys
275 280 285

Val Ile Tyr Pro Gly Leu Pro Ser His Pro Gln His Glu Leu Ala Lys
290 295 300

Arg Gln Cys Thr Gly Cys Thr Gly Met Ile Thr Phe Tyr Ile Lys Gly
305 310 315 320

Thr Leu Gln His Ala Glu Ile Phe Leu Lys Asn Leu Lys Leu Phe Thr
325 330 335

Leu Ala Glu Ser Leu Gly Gly Phe Glu Ser Leu Val Glu Leu Pro Ala
340 345 350

Ile Met Thr His Ala Ser Val Pro Lys Asn Asp Arg Asp Val Leu Gly
355 360 365

Ile Ser Asp Thr Leu Ile Arg Leu Ser Val Gly Leu Glu Asp Glu Lys
370 375 380

Asp Leu Leu Glu Asp Leu Asp Gln Ala Leu Lys Ala Ala His Pro Pro
385 390 395 400

Ser Gly Ser His Asn
405

<210> 9
<211> 405
<212> PRT
<213> Pan troglodytes

<400> 9

Met Gln Glu Lys Asp Ala Ser Ser Gln Gly Phe Leu Pro His Phe Gln
1 5 10 15

His Phe Ala Thr Gln Ala Ile His Val Gly Gln Asp Pro Glu Gln Trp
 20 25 30

Thr Ser Arg Ala Leu Val Pro Pro Ile Ser Leu Ser Thr Thr Phe Lys
 35 40 45

Gln Gly Ala Pro Gly Gln His Ser Gly Phe Glu Tyr Ser Arg Ser Gly
 50 55 60

Asn Pro Thr Arg Asn Cys Leu Glu Lys Ala Val Ala Ala Leu Asp Gly
 65 70 75 80

Ala Lys Tyr Cys Leu Ala Phe Ala Ser Gly Leu Ala Ala Thr Val Thr
 85 90 95

Ile Thr His Leu Leu Lys Ala Gly Asp Gln Ile Ile Cys Met Asp Asp
 100 105 110

Val Tyr Gly Gly Thr Asn Arg Tyr Phe Arg Gln Val Ala Ser Glu Phe
 115 120 125

Gly Leu Lys Ile Ser Phe Val Asp Cys Ser Lys Ile Lys Leu Leu Glu
 130 135 140

Ala Ala Ile Thr Pro Glu Thr Lys Leu Val Trp Ile Glu Thr Pro Thr
 145 150 155 160

Asn Pro Thr Gln Lys Val Ile Asp Ile Glu Ala Cys Ala His Ile Val
 165 170 175

His Lys His Gly Asp Ile Ile Leu Val Val Asp Asn Thr Phe Met Ser
 180 185 190

Pro Tyr Phe Gln Arg Pro Leu Ala Leu Gly Ala Asp Ile Cys Met Tyr
 195 200 205

Ser Ala Thr Lys Tyr Met Asn Gly His Ser Asp Val Val Met Gly Leu
 210 215 220

Val Ser Val Asn Cys Glu Ser Leu His Asn Arg Leu Arg Phe Leu Gln
 225 230 235 240

Asn Ser Leu Gly Ala Val Pro Ser Pro Ile Asp Cys Tyr Leu Cys Asn
 245 250 255

Arg Gly Leu Lys Thr Leu His Val Arg Met Glu Lys His Phe Lys Asn
 260 265 270

Gly Met Ala Val Ala Gln Phe Leu Glu Ser Asn Pro Trp Val Glu Lys
 275 280 285

Val Ile Tyr Pro Gly Leu Pro Ser His Pro Gln His Glu Leu Val Lys
 290 295 300

Arg Gln Cys Thr Gly Cys Thr Gly Met Val Thr Phe Tyr Ile Lys Gly
 305 310 315 320

Thr Leu Gln His Ala Glu Ile Phe Leu Lys Asn Leu Lys Leu Phe Thr
 325 330 335

Leu Ala Glu Ser Leu Gly Gly Phe Glu Ser Leu Ala Glu Leu Pro Ala
 340 345 350

Ile Met Thr His Ala Ser Val Leu Lys Asn Asp Arg Asp Val Leu Gly
 355 360 365

Ile Ser Asp Thr Leu Ile Arg Leu Ser Val Gly Leu Glu Asp Glu Glu
 370 375 380

Asp Leu Leu Glu Asp Leu Asp Gln Ala Leu Lys Ala Ala His Pro Pro
 385 390 395 400

Ser Gly Ser His Ser
405

<210> 10
<211> 405
<212> PRT
<213> Pan paniscus

<400> 10

Met Gln Glu Lys Asp Ala Ser Ser Gln Gly Phe Leu Pro His Phe Gln
1 5 10 15

His Phe Ala Thr Gln Ala Ile His Val Gly Gln Asp Pro Glu Gln Trp
20 25 30

Thr Ser Lys Ala Leu Val Pro Pro Ile Ser Leu Ser Thr Thr Phe Lys
35 40 45

Gln Gly Ala Pro Gly Gln His Ser Gly Phe Glu Tyr Ser Arg Ser Gly
50 55 60

Asn Pro Thr Arg Asn Cys Leu Glu Lys Ala Val Ala Ala Leu Asp Gly
65 70 75 80

Ala Lys Tyr Cys Leu Ala Phe Ala Ser Gly Leu Ala Ala Thr Val Thr
85 90 95

Ile Thr His Leu Leu Lys Ala Gly Asp Gln Ile Ile Cys Met Asp Asp
100 105 110

Val Tyr Gly Gly Thr Asn Arg Tyr Phe Arg Gln Val Ala Ser Glu Phe
115 120 125

Gly Leu Lys Ile Ser Phe Val Asp Cys Ser Lys Ile Lys Leu Leu Glu
130 135 140

Ala Ala Ile Thr Pro Glu Thr Lys Leu Val Trp Ile Glu Thr Pro Thr
145 150 155 160

Asn Pro Thr Gln Lys Val Ile Asp Ile Glu Ala Cys Ala His Ile Val
 165 170 175

His Lys His Gly Asp Ile Ile Leu Val Val Asp Asn Thr Phe Met Ser
 180 185 190

Pro Tyr Phe Gln Arg Pro Leu Ala Leu Gly Ala Asp Ile Cys Met Tyr
 195 200 205

Ser Ala Thr Lys Tyr Met Asn Gly His Ser Asp Val Val Ile Gly Leu
 210 215 220

Val Ser Val Asn Cys Glu Ser Leu His Asn Arg Leu Arg Phe Leu Gln
 225 230 235 240

Asn Ser Leu Gly Ala Val Pro Ser Pro Ile Asp Cys Tyr Leu Cys Asn
 245 250 255

Arg Gly Leu Lys Thr Leu His Val Arg Met Glu Lys His Phe Lys Asn
 260 265 270

Gly Met Ala Val Ala Gln Phe Leu Glu Ser Asn Pro Trp Val Glu Lys
 275 280 285

Val Ile Tyr Pro Gly Leu Pro Ser His Pro Gln His Glu Leu Val Lys
 290 295 300

Arg Gln Cys Thr Gly Cys Thr Gly Met Val Thr Phe Tyr Ile Lys Gly
 305 310 315 320

Thr Leu Gln His Ala Glu Ile Phe Leu Lys Asn Leu Lys Leu Phe Thr
 325 330 335

Leu Ala Glu Ser Leu Gly Gly Phe Glu Ser Leu Ala Glu Leu Pro Ala
 340 345 350

Ile Met Thr His Ala Ser Val Leu Lys Asn Asp Arg Asp Val Leu Gly
 355 360 365

Ile Ser Asp Thr Leu Ile Arg Leu Ser Val Gly Leu Glu Asp Glu Glu
 370 375 380

Asp Leu Leu Glu Asp Leu Asp Gln Ala Leu Lys Ala Ala His Pro Pro
 385 390 395 400

Ser Gly Ser His Ser
 405

<210> 11
 <211> 405
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic polypeptide

<400> 11

Met Gln Glu Lys Glu Ala Ser Ser Gln Gly Phe Leu Pro His Phe Gln
 1 5 10 15

His Phe Ala Thr Gln Ala Ile His Val Gly Gln Glu Pro Glu Gln Trp
 20 25 30

Thr Ser Arg Ala Val Val Pro Pro Ile Ser Pro Ser Val Thr Phe Lys
 35 40 45

Gln Gly Ala Pro Gly Gln His Ser Gly Phe Asn Tyr Ser Arg Leu Gly
 50 55 60

Asn Pro Thr Arg Asn Cys Leu Glu Lys Ala Val Ala Ala Leu Asp Gly
 65 70 75 80

Ala Lys Tyr Cys Leu Ala Phe Ala Ser Gly Met Ala Ala Thr Val Thr
 85 90 95

Ile Thr His Leu Leu Lys Ala Gly Asp Gln Ile Ile Cys Met Asp Asp
 100 105 110

Val Tyr Ala Gly Thr Asn Leu Tyr Phe Arg Gln Val Ala Ser Glu Phe
 115 120 125

Gly Leu Lys Ile Ser Phe Val Asp Cys Ser Lys Ile Lys Leu Leu Glu
 130 135 140

Ala Ala Ile Thr Pro Glu Thr Lys Leu Val Trp Ile Glu Thr Pro Thr
 145 150 155 160

Asn Pro Thr Gln Lys Met Thr Asp Ile Glu Ala Cys Ala His Ile Val
 165 170 175

His Lys His Gly Asp Ile Ile Leu Val Val Asp Asn Thr Phe Met Ser
 180 185 190

Pro Tyr Phe Gln Arg Pro Leu Ala Leu Gly Ala Asp Ile Cys Met Cys
 195 200 205

Ser Ala Thr Lys Tyr Met Asn Gly His Ser Asp Val Val Met Gly Leu
 210 215 220

Val Ser Val Asn Cys Glu Ser Leu Tyr Asn Arg Leu Arg Phe Leu Gln
 225 230 235 240

Asn Ser Leu Gly Ala Val Pro Ser Pro Ile Asp Cys Tyr Leu Cys Asn
 245 250 255

Arg Gly Leu Lys Thr Leu Gln Val Arg Met Glu Arg His Phe Lys Asn
 260 265 270

Gly Met Ala Val Ala Gln Phe Leu Glu Ser Asn Pro Trp Val Glu Lys
 275 280 285

Val Ile Tyr Pro Gly Leu Pro Ser His Pro Gln His Glu Leu Val Lys
 290 295 300

Arg Gln Cys Thr Gly Cys Gly Gly Met Val Thr Phe Tyr Ile Lys Gly
 305 310 315 320

Thr Leu Gln His Ala Glu Ile Phe Leu Lys Asn Leu Lys Leu Phe Thr
 325 330 335

Leu Ala Val Ser Leu Gly Gly Phe Glu Ser Leu Val Glu Leu Pro Ala
 340 345 350

Ser Met Thr His Ala Ser Val Leu Lys Lys Asp Arg Asp Val Leu Gly
 355 360 365

Ile Ser Asp Thr Leu Ile Arg Leu Ser Val Gly Leu Glu Asp Glu Glu
 370 375 380

Asp Leu Leu Glu Asp Leu Asp Gln Ala Leu Lys Ala Ala His Pro Pro
 385 390 395 400

Ser Gly Ser His Ser
 405

<210> 12
 <211> 405
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic polypeptide

<400> 12

Met Gln Glu Lys Glu Ala Ser Ser Gln Gly Phe Leu Pro His Phe Gln
 1 5 10 15

His Phe Ala Thr Gln Ala Ile His Val Gly Gln Glu Pro Glu Gln Trp
 20 25 30

Thr Ser Arg Ala Val Val Pro Pro Ile Ser Pro Ser Val Thr Phe Lys
 35 40 45

Gln Gly Ala Pro Gly Gln His Ser Gly Phe Ile Tyr Ser Arg Leu Gly
 50 55 60

Asn Pro Thr Arg Asn Cys Leu Glu Lys Ala Val Ala Ala Leu Asp Gly
 65 70 75 80

Ala Lys Tyr Cys Leu Ala Phe Ala Ser Gly Met Ala Ala Thr Val Thr
 85 90 95

Ile Thr His Leu Leu Lys Ala Gly Asp Gln Ile Ile Cys Met Asp Asp
 100 105 110

Val Tyr Ala Gly Thr Asn Leu Tyr Phe Arg Gln Val Ala Ser Glu Phe
 115 120 125

Gly Leu Lys Ile Ser Phe Val Asp Cys Ser Lys Ile Lys Leu Leu Glu
 130 135 140

Ala Ala Ile Thr Pro Glu Thr Lys Leu Val Trp Ile Glu Thr Pro Thr
 145 150 155 160

Asn Pro Thr Gln Lys Met Thr Asp Ile Glu Ala Cys Ala His Ile Val
 165 170 175

His Lys His Gly Asp Ile Ile Leu Val Val Asp Asn Thr Phe Met Ser
 180 185 190

Pro Tyr Phe Gln Arg Pro Leu Ala Leu Gly Ala Asp Ile Cys Met Cys
 195 200 205

Ser Ala Thr Lys Tyr Met Asn Gly His Ser Asp Val Val Met Gly Leu
 210 215 220

Val Ser Val Asn Cys Glu Ser Leu Tyr Asn Arg Leu Arg Phe Leu Gln
 225 230 235 240

Asn Ser Leu Gly Ala Val Pro Ser Pro Ile Asp Cys Tyr Leu Cys Asn
 245 250 255

Arg Gly Leu Lys Thr Leu Gln Val Arg Met Glu Arg His Phe Lys Asn
 260 265 270

Gly Met Ala Val Ala Gln Phe Leu Glu Ser Asn Pro Trp Val Glu Lys
 275 280 285

Val Ile Tyr Pro Gly Leu Pro Ser His Pro Gln His Glu Leu Val Lys
 290 295 300

Arg Gln Cys Thr Gly Cys Gly Gly Met Val Thr Phe Tyr Ile Lys Gly
 305 310 315 320

Thr Leu Gln His Ala Glu Ile Phe Leu Lys Asn Leu Lys Leu Phe Thr
 325 330 335

Leu Ala Val Ser Leu Gly Gly Phe Glu Ser Leu Val Glu Leu Pro Ala
 340 345 350

Ser Met Thr His Ala Ser Val Leu Lys Lys Asp Arg Asp Val Leu Gly
 355 360 365

Ile Ser Asp Thr Leu Ile Arg Leu Ser Val Gly Leu Glu Asp Glu Glu
 370 375 380

Asp Leu Leu Glu Asp Leu Asp Gln Ala Leu Lys Ala Ala His Pro Pro
 385 390 395 400

Ser Gly Ser His Ser
 405

<210> 13
 <211> 405
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 <213> Artificial Sequence

<220>
 <223> Synthetic polypeptide

<400> 13

Met Gln Glu Lys Glu Ala Ser Ser Gln Gly Phe Leu Pro His Phe Gln
 1 5 10 15

His Phe Ala Thr Gln Ala Ile His Val Gly Gln Glu Pro Glu Gln Trp
 20 25 30

Thr Ser Arg Ala Val Val Pro Pro Ile Ser Pro Ser Val Thr Phe Lys
 35 40 45

Gln Gly Ala Pro Gly Gln His Ser Gly Phe Asn Tyr Ser Arg Leu Gly
 50 55 60

Asn Pro Thr Arg Asn Cys Leu Glu Lys Ala Val Ala Ala Leu Asp Gly
 65 70 75 80

Ala Lys Tyr Cys Leu Ala Phe Ala Ser Gly Met Ala Ala Thr Val Thr
 85 90 95

Ile Thr His Leu Leu Lys Ala Gly Asp Gln Ile Ile Cys Met Asp Asp
 100 105 110

Val Tyr Ala Gly Thr Asn Ala Tyr Phe Arg Gln Val Ala Ser Glu Phe
 115 120 125

Gly Leu Lys Ile Ser Phe Val Asp Cys Ser Lys Ile Lys Leu Leu Glu
 130 135 140

Ala Ala Ile Thr Pro Glu Thr Lys Leu Val Trp Ile Glu Thr Pro Thr
 145 150 155 160

Asn Pro Thr Gln Lys Met Thr Asp Ile Glu Ala Cys Ala His Ile Val
 165 170 175

His Lys His Gly Asp Ile Ile Leu Val Val Asp Asn Thr Phe Met Ser
 180 185 190

Pro Tyr Phe Gln Arg Pro Leu Ala Leu Gly Ala Asp Ile Cys Met Cys
 195 200 205

Ser Ala Thr Lys Tyr Met Asn Gly His Ser Asp Val Val Met Gly Leu
 210 215 220

Val Ser Val Asn Cys Glu Ser Leu Tyr Asn Arg Leu Arg Phe Leu Gln
 225 230 235 240

Asn Ser Leu Gly Ala Val Pro Ser Pro Ile Asp Cys Tyr Leu Cys Asn
 245 250 255

Arg Gly Leu Lys Thr Leu Gln Val Arg Met Glu Arg His Phe Lys Asn
 260 265 270

Gly Met Ala Val Ala Gln Phe Leu Glu Ser Asn Pro Trp Val Glu Lys
 275 280 285

Val Ile Tyr Pro Gly Leu Pro Ser His Pro Gln His Glu Leu Val Lys
 290 295 300

Arg Gln Cys Thr Gly Cys Gly Gly Met Val Thr Phe Tyr Ile Lys Gly
 305 310 315 320

Thr Leu Gln His Ala Glu Ile Phe Leu Lys Asn Leu Lys Leu Phe Thr
 325 330 335

Leu Ala Val Ser Leu Gly Gly Phe Glu Ser Leu Val Glu Leu Pro Ala
 340 345 350

Ser Met Thr His Ala Ser Val Leu Lys Lys Asp Arg Asp Val Leu Gly
355 360 365 31

Ile Ser Asp Thr Leu Ile Arg Leu Ser Val Gly Leu Glu Asp Glu Glu
370 375 380

Asp Leu Leu Glu Asp Leu Asp Gln Ala Leu Lys Ala Ala His Pro Pro
385 390 395 400

Ser Gly Ser His Ser
405

<210> 14
<211> 405
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic polypeptide

<400> 14

Met Gln Glu Lys Glu Ala Ser Ser Gln Gly Phe Leu Pro His Phe Gln
1 5 10 15

His Phe Ala Thr Gln Ala Ile His Val Gly Gln Glu Pro Glu Gln Trp
20 25 30

Thr Ser Arg Ala Val Val Pro Pro Ile Ser Pro Ser Val Thr Phe Lys
35 40 45

Gln Gly Ala Pro Gly Gln His Ser Gly Phe Ile Tyr Ser Arg Leu Gly
50 55 60

Asn Pro Thr Arg Asn Cys Leu Glu Lys Ala Val Ala Ala Leu Asp Gly
65 70 75 80

Ala Lys Tyr Cys Leu Ala Phe Ala Ser Gly Met Ala Ala Thr Val Thr
85 90 95

Ile Thr His Leu Leu Lys Ala Gly Asp Gln Ile Ile Cys Met Asp Asp
 100 105 110

Val Tyr Ala Gly Thr Asn Ala Tyr Phe Arg Gln Val Ala Ser Glu Phe
 115 120 125

Gly Leu Lys Ile Ser Phe Val Asp Cys Ser Lys Ile Lys Leu Leu Glu
 130 135 140

Ala Ala Ile Thr Pro Glu Thr Lys Leu Val Trp Ile Glu Thr Pro Thr
 145 150 155 160

Asn Pro Thr Gln Lys Met Thr Asp Ile Glu Ala Cys Ala His Ile Val
 165 170 175

His Lys His Gly Asp Ile Ile Leu Val Val Asp Asn Thr Phe Met Ser
 180 185 190

Pro Tyr Phe Gln Arg Pro Leu Ala Leu Gly Ala Asp Ile Cys Met Cys
 195 200 205

Ser Ala Thr Lys Tyr Met Asn Gly His Ser Asp Val Val Met Gly Leu
 210 215 220

Val Ser Val Asn Cys Glu Ser Leu Tyr Asn Arg Leu Arg Phe Leu Gln
 225 230 235 240

Asn Ser Leu Gly Ala Val Pro Ser Pro Ile Asp Cys Tyr Leu Cys Asn
 245 250 255

Arg Gly Leu Lys Thr Leu Gln Val Arg Met Glu Arg His Phe Lys Asn
 260 265 270

Gly Met Ala Val Ala Gln Phe Leu Glu Ser Asn Pro Trp Val Glu Lys
 275 280 285

Val Ile Tyr Pro Gly Leu Pro Ser His Pro Gln His Glu Leu Val Lys
290 295 300 33

Arg Gln Cys Thr Gly Cys Gly Gly Met Val Thr Phe Tyr Ile Lys Gly
305 310 315 320

Thr Leu Gln His Ala Glu Ile Phe Leu Lys Asn Leu Lys Leu Phe Thr
325 330 335

Leu Ala Val Ser Leu Gly Gly Phe Glu Ser Leu Val Glu Leu Pro Ala
340 345 350

Ser Met Thr His Ala Ser Val Leu Lys Lys Asp Arg Asp Val Leu Gly
355 360 365

Ile Ser Asp Thr Leu Ile Arg Leu Ser Val Gly Leu Glu Asp Glu Glu
370 375 380

Asp Leu Leu Glu Asp Leu Asp Gln Ala Leu Lys Ala Ala His Pro Pro
385 390 395 400

Ser Gly Ser His Ser
405

<210> 15
<211> 405
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic polypeptide

<400> 15

Met Gln Glu Lys Asp Ala Ser Ser Gln Gly Phe Leu Pro His Phe Gln
1 5 10 15

His Phe Ala Thr Gln Ala Ile His Val Gly Gln Glu Pro Glu Gln Trp
20 25 30

Thr Ser Arg Ala Val Val Pro Leu Ile Ser Leu Ser Thr Thr Phe Lys
 35 40 45

Gln Ala Ala Pro Gly Gln His Ser Gly Phe Asn Tyr Ser Arg Leu Gly
 50 55 60

Asn Pro Thr Arg Asn Cys Leu Glu Lys Ala Val Ala Ala Leu Asp Gly
 65 70 75 80

Ala Lys Tyr Cys Leu Ala Phe Ala Ser Gly Met Ala Ala Thr Val Thr
 85 90 95

Ile Thr His Leu Leu Lys Ala Gly Asp Gln Ile Ile Cys Met Asp Asp
 100 105 110

Val Tyr Gly Gly Thr Asn Leu Tyr Phe Arg Gln Val Ala Ser Glu Phe
 115 120 125

Gly Leu Lys Ile Ser Phe Val Asp Cys Ser Lys Ile Lys Leu Leu Glu
 130 135 140

Ala Ala Ile Thr Pro Glu Thr Lys Leu Val Trp Ile Glu Thr Pro Thr
 145 150 155 160

Asn Pro Val Leu Lys Met Ile Asp Ile Glu Ala Cys Ala His Ile Val
 165 170 175

His Lys Arg Gly Asp Ile Ile Leu Val Val Asp Asn Thr Phe Met Ser
 180 185 190

Pro Tyr Phe Gln Arg Pro Leu Ala Leu Gly Ala Asp Ile Cys Met Cys
 195 200 205

Ser Ala Thr Lys Tyr Met Asn Gly His Ser Asp Val Val Met Gly Leu
 210 215 220

Val Ser Val Asn Cys Glu Arg Leu His Asn Arg Leu Arg Phe Leu Gln
 225 230 235 240

Asn Ser Leu Gly Ala Val Pro Ser Pro Leu Asp Cys Tyr Leu Cys Asn
 245 250 255

Arg Gly Leu Lys Thr Leu His Val Arg Met Glu Arg His Phe Lys Asn
 260 265 270

Gly Met Ala Val Ala Gln Phe Leu Glu Ser Asn Pro Gly Val Glu Lys
 275 280 285

Val Ile Tyr Pro Gly Leu Pro Ser His Pro Gln His Glu Leu Ala Lys
 290 295 300

Arg Gln Cys Thr Gly Cys Gly Gly Met Ile Thr Phe Tyr Ile Lys Gly
 305 310 315 320

Thr Leu Gln His Ala Glu Ile Phe Leu Lys Asn Leu Lys Leu Phe Thr
 325 330 335

Leu Ala Val Ser Leu Gly Gly Phe Glu Ser Leu Val Glu Leu Pro Ala
 340 345 350

Ser Met Thr His Ala Ser Val Pro Lys Asn Asp Arg Asp Val Leu Gly
 355 360 365

Ile Ser Asp Thr Leu Ile Arg Leu Ser Val Gly Leu Glu Asp Glu Lys
 370 375 380

Asp Leu Leu Glu Asp Leu Asp Gln Ala Leu Lys Ala Ala His Pro Pro
 385 390 395 400

Ser Gly Ser His Asn
 405

<211> 405
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic polypeptide

<400> 16

Met Gln Glu Lys Asp Ala Ser Ser Gln Gly Phe Leu Pro His Phe Gln
 1 5 10 15

His Phe Ala Thr Gln Ala Ile His Val Gly Gln Glu Pro Glu Gln Trp
 20 25 30

Thr Ser Arg Ala Val Val Pro Leu Ile Ser Leu Ser Thr Thr Phe Lys
 35 40 45

Gln Ala Ala Pro Gly Gln His Ser Gly Phe Ile Tyr Ser Arg Leu Gly
 50 55 60

Asn Pro Thr Arg Asn Cys Leu Glu Lys Ala Val Ala Ala Leu Asp Gly
 65 70 75 80

Ala Lys Tyr Cys Leu Ala Phe Ala Ser Gly Met Ala Ala Thr Val Thr
 85 90 95

Ile Thr His Leu Leu Lys Ala Gly Asp Gln Ile Ile Cys Met Asp Asp
 100 105 110

Val Tyr Gly Gly Thr Asn Leu Tyr Phe Arg Gln Val Ala Ser Glu Phe
 115 120 125

Gly Leu Lys Ile Ser Phe Val Asp Cys Ser Lys Ile Lys Leu Leu Glu
 130 135 140

Ala Ala Ile Thr Pro Glu Thr Lys Leu Val Trp Ile Glu Thr Pro Thr
 145 150 155 160

Asn Pro Val Leu Lys Met Ile Asp Ile Glu Ala Cys Ala His Ile Val
165 170 175 37

His Lys Arg Gly Asp Ile Ile Leu Val Val Asp Asn Thr Phe Met Ser
180 185 190

Pro Tyr Phe Gln Arg Pro Leu Ala Leu Gly Ala Asp Ile Cys Met Cys
195 200 205

Ser Ala Thr Lys Tyr Met Asn Gly His Ser Asp Val Val Met Gly Leu
210 215 220

Val Ser Val Asn Cys Glu Arg Leu His Asn Arg Leu Arg Phe Leu Gln
225 230 235 240

Asn Ser Leu Gly Ala Val Pro Ser Pro Leu Asp Cys Tyr Leu Cys Asn
245 250 255

Arg Gly Leu Lys Thr Leu His Val Arg Met Glu Arg His Phe Lys Asn
260 265 270

Gly Met Ala Val Ala Gln Phe Leu Glu Ser Asn Pro Gly Val Glu Lys
275 280 285

Val Ile Tyr Pro Gly Leu Pro Ser His Pro Gln His Glu Leu Ala Lys
290 295 300

Arg Gln Cys Thr Gly Cys Gly Gly Met Ile Thr Phe Tyr Ile Lys Gly
305 310 315 320

Thr Leu Gln His Ala Glu Ile Phe Leu Lys Asn Leu Lys Leu Phe Thr
325 330 335

Leu Ala Val Ser Leu Gly Gly Phe Glu Ser Leu Val Glu Leu Pro Ala
340 345 350

Ser Met Thr His Ala Ser Val Pro Lys Asn Asp Arg Asp Val Leu Gly

Ile Thr His Leu Leu Lys Ala Gly Asp Gln Ile Ile Cys Met Asp Asp
100 105 110 39

Val Tyr Gly Gly Thr Asn Ala Tyr Phe Arg Gln Val Ala Ser Glu Phe
115 120 125

Gly Leu Lys Ile Ser Phe Val Asp Cys Ser Lys Ile Lys Leu Leu Glu
130 135 140

Ala Ala Ile Thr Pro Glu Thr Lys Leu Val Trp Ile Glu Thr Pro Thr
145 150 155 160

Asn Pro Val Leu Lys Met Ile Asp Ile Glu Ala Cys Ala His Ile Val
165 170 175

His Lys Arg Gly Asp Ile Ile Leu Val Val Asp Asn Thr Phe Met Ser
180 185 190

Pro Tyr Phe Gln Arg Pro Leu Ala Leu Gly Ala Asp Ile Cys Met Cys
195 200 205

Ser Ala Thr Lys Tyr Met Asn Gly His Ser Asp Val Val Met Gly Leu
210 215 220

Val Ser Val Asn Cys Glu Arg Leu His Asn Arg Leu Arg Phe Leu Gln
225 230 235 240

Asn Ser Leu Gly Ala Val Pro Ser Pro Leu Asp Cys Tyr Leu Cys Asn
245 250 255

Arg Gly Leu Lys Thr Leu His Val Arg Met Glu Arg His Phe Lys Asn
260 265 270

Gly Met Ala Val Ala Gln Phe Leu Glu Ser Asn Pro Gly Val Glu Lys
275 280 285

Val Ile Tyr Pro Gly Leu Pro Ser His Pro Gln His Glu Leu Ala Lys

290 295 40 300
 Arg Gln Cys Thr Gly Cys Gly Gly Met Ile Thr Phe Tyr Ile Lys Gly
 305 310 315 320
 Thr Leu Gln His Ala Glu Ile Phe Leu Lys Asn Leu Lys Leu Phe Thr
 325 330 335
 Leu Ala Val Ser Leu Gly Gly Phe Glu Ser Leu Val Glu Leu Pro Ala
 340 345 350
 Ser Met Thr His Ala Ser Val Pro Lys Asn Asp Arg Asp Val Leu Gly
 355 360 365
 Ile Ser Asp Thr Leu Ile Arg Leu Ser Val Gly Leu Glu Asp Glu Lys
 370 375 380
 Asp Leu Leu Glu Asp Leu Asp Gln Ala Leu Lys Ala Ala His Pro Pro
 385 390 395 400
 Ser Gly Ser His Asn
 405

<210> 18
 <211> 405
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic polypeptide

<400> 18

Met Gln Glu Lys Asp Ala Ser Ser Gln Gly Phe Leu Pro His Phe Gln
 1 5 10 15

His Phe Ala Thr Gln Ala Ile His Val Gly Gln Glu Pro Glu Gln Trp
 20 25 30

Thr Ser Arg Ala Val Val Pro Leu Ile Ser Leu Ser Thr Thr Phe Lys
35 40 41 45

Gln Ala Ala Pro Gly Gln His Ser Gly Phe Ile Tyr Ser Arg Leu Gly
50 55 60

Asn Pro Thr Arg Asn Cys Leu Glu Lys Ala Val Ala Ala Leu Asp Gly
65 70 75 80

Ala Lys Tyr Cys Leu Ala Phe Ala Ser Gly Met Ala Ala Thr Val Thr
85 90 95

Ile Thr His Leu Leu Lys Ala Gly Asp Gln Ile Ile Cys Met Asp Asp
100 105 110

Val Tyr Gly Gly Thr Asn Ala Tyr Phe Arg Gln Val Ala Ser Glu Phe
115 120 125

Gly Leu Lys Ile Ser Phe Val Asp Cys Ser Lys Ile Lys Leu Leu Glu
130 135 140

Ala Ala Ile Thr Pro Glu Thr Lys Leu Val Trp Ile Glu Thr Pro Thr
145 150 155 160

Asn Pro Val Leu Lys Met Ile Asp Ile Glu Ala Cys Ala His Ile Val
165 170 175

His Lys Arg Gly Asp Ile Ile Leu Val Val Asp Asn Thr Phe Met Ser
180 185 190

Pro Tyr Phe Gln Arg Pro Leu Ala Leu Gly Ala Asp Ile Cys Met Cys
195 200 205

Ser Ala Thr Lys Tyr Met Asn Gly His Ser Asp Val Val Met Gly Leu
210 215 220

Val Ser Val Asn Cys Glu Arg Leu His Asn Arg Leu Arg Phe Leu Gln

225									42									
					230				235								240	
Asn	Ser	Leu	Gly	Ala	Val	Pro	Ser	Pro	Leu	Asp	Cys	Tyr	Leu	Cys	Asn			
				245					250					255				
Arg	Gly	Leu	Lys	Thr	Leu	His	Val	Arg	Met	Glu	Arg	His	Phe	Lys	Asn			
			260					265					270					
Gly	Met	Ala	Val	Ala	Gln	Phe	Leu	Glu	Ser	Asn	Pro	Gly	Val	Glu	Lys			
		275					280					285						
Val	Ile	Tyr	Pro	Gly	Leu	Pro	Ser	His	Pro	Gln	His	Glu	Leu	Ala	Lys			
	290					295					300							
Arg	Gln	Cys	Thr	Gly	Cys	Gly	Gly	Met	Ile	Thr	Phe	Tyr	Ile	Lys	Gly			
305					310					315					320			
Thr	Leu	Gln	His	Ala	Glu	Ile	Phe	Leu	Lys	Asn	Leu	Lys	Leu	Phe	Thr			
				325					330					335				
Leu	Ala	Val	Ser	Leu	Gly	Gly	Phe	Glu	Ser	Leu	Val	Glu	Leu	Pro	Ala			
			340					345					350					
Ser	Met	Thr	His	Ala	Ser	Val	Pro	Lys	Asn	Asp	Arg	Asp	Val	Leu	Gly			
		355					360					365						
Ile	Ser	Asp	Thr	Leu	Ile	Arg	Leu	Ser	Val	Gly	Leu	Glu	Asp	Glu	Lys			
	370					375					380							
Asp	Leu	Leu	Glu	Asp	Leu	Asp	Gln	Ala	Leu	Lys	Ala	Ala	His	Pro	Pro			
385					390					395					400			
Ser	Gly	Ser	His	Asn														
				405														

<210> 19
 <211> 405

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic polypeptide

<400> 19

Met	Gln	Glu	Lys	Asp	Ala	Ser	Ser	Gln	Gly	Phe	Leu	Pro	His	Phe	Gln
1				5					10					15	

His	Phe	Ala	Thr	Gln	Ala	Ile	His	Val	Gly	Gln	Asp	Pro	Glu	Gln	Trp
			20					25					30		

Thr	Ser	Arg	Ala	Leu	Val	Pro	Pro	Ile	Ser	Leu	Ser	Thr	Thr	Phe	Lys
		35					40					45			

Gln	Gly	Ala	Pro	Gly	Gln	His	Ser	Gly	Phe	Asn	Tyr	Ser	Arg	Leu	Gly
	50					55					60				

Asn	Pro	Thr	Arg	Asn	Cys	Leu	Glu	Lys	Ala	Val	Ala	Ala	Leu	Asp	Gly
65					70					75					80

Ala	Lys	Tyr	Cys	Leu	Ala	Phe	Ala	Ser	Gly	Met	Ala	Ala	Thr	Val	Thr
				85					90					95	

Ile	Thr	His	Leu	Leu	Lys	Ala	Gly	Asp	Gln	Ile	Ile	Cys	Met	Asp	Asp
			100					105					110		

Val	Tyr	Gly	Gly	Thr	Asn	Leu	Tyr	Phe	Arg	Gln	Val	Ala	Ser	Glu	Phe
		115					120					125			

Gly	Leu	Lys	Ile	Ser	Phe	Val	Asp	Cys	Ser	Lys	Ile	Lys	Leu	Leu	Glu
	130						135				140				

Ala	Ala	Ile	Thr	Pro	Glu	Thr	Lys	Leu	Val	Trp	Ile	Glu	Thr	Pro	Thr
145					150					155					160

Asn	Pro	Thr	Gln	Lys	Val	Ile	Asp	Ile	Glu	Ala	Cys	Ala	His	Ile	Val
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

44															
165						170						175			
His	Lys	His	Gly 180	Asp	Ile	Ile	Leu	Val 185	Val	Asp	Asn	Thr	Phe 190	Met	Ser
Pro	Tyr	Phe 195	Gln	Arg	Pro	Leu	Ala 200	Leu	Gly	Ala	Asp	Ile 205	Cys	Met	Tyr
Ser	Ala 210	Thr	Lys	Tyr	Met	Asn 215	Gly	His	Ser	Asp	Val 220	Val	Met	Gly	Leu
Val 225	Ser	Val	Asn	Cys 230	Glu	Ser	Leu	His	Asn 235	Arg	Leu	Arg	Phe	Leu	Gln 240
Asn	Ser	Leu	Gly	Ala 245	Val	Pro	Ser	Pro	Ile 250	Asp	Cys	Tyr	Leu	Cys 255	Asn
Arg	Gly	Leu	Lys 260	Thr	Leu	His	Val	Arg 265	Met	Glu	Arg	His	Phe 270	Lys	Asn
Gly	Met	Ala 275	Val	Ala	Gln	Phe	Leu 280	Glu	Ser	Asn	Pro	Trp 285	Val	Glu	Lys
Val 290	Ile	Tyr	Pro	Gly	Leu	Pro 295	Ser	His	Pro	Gln	His 300	Glu	Leu	Val	Lys
Arg 305	Gln	Cys	Thr	Gly	Cys 310	Gly	Gly	Met	Val	Thr 315	Phe	Tyr	Ile	Lys	Gly 320
Thr	Leu	Gln	His	Ala 325	Glu	Ile	Phe	Leu	Lys 330	Asn	Leu	Lys	Leu	Phe 335	Thr
Leu	Ala	Val	Ser 340	Leu	Gly	Gly	Phe	Glu 345	Ser	Leu	Ala	Glu	Leu	Pro	Ala
Ser	Met	Thr 355	His	Ala	Ser	Val	Leu 360	Lys	Asn	Asp	Arg	Asp 365	Val	Leu	Gly

Ile Ser Asp Thr Leu Ile Arg Leu Ser Val Gly Leu Glu Asp Glu Glu
 370 375 380

Asp Leu Leu Glu Asp Leu Asp Gln Ala Leu Lys Ala Ala His Pro Pro
 385 390 395 400

Ser Gly Ser His Ser
 405

<210> 20
 <211> 405
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic polypeptide

<400> 20

Met Gln Glu Lys Asp Ala Ser Ser Gln Gly Phe Leu Pro His Phe Gln
 1 5 10 15

His Phe Ala Thr Gln Ala Ile His Val Gly Gln Asp Pro Glu Gln Trp
 20 25 30

Thr Ser Arg Ala Leu Val Pro Pro Ile Ser Leu Ser Thr Thr Phe Lys
 35 40 45

Gln Gly Ala Pro Gly Gln His Ser Gly Phe Ile Tyr Ser Arg Leu Gly
 50 55 60

Asn Pro Thr Arg Asn Cys Leu Glu Lys Ala Val Ala Ala Leu Asp Gly
 65 70 75 80

Ala Lys Tyr Cys Leu Ala Phe Ala Ser Gly Met Ala Ala Thr Val Thr
 85 90 95

Ile Thr His Leu Leu Lys Ala Gly Asp Gln Ile Ile Cys Met Asp Asp

100

105

110

Val Tyr Gly Gly Thr Asn Leu Tyr Phe Arg Gln Val Ala Ser Glu Phe
 115 120 125

Gly Leu Lys Ile Ser Phe Val Asp Cys Ser Lys Ile Lys Leu Leu Glu
 130 135 140

Ala Ala Ile Thr Pro Glu Thr Lys Leu Val Trp Ile Glu Thr Pro Thr
 145 150 155 160

Asn Pro Thr Gln Lys Val Ile Asp Ile Glu Ala Cys Ala His Ile Val
 165 170 175

His Lys His Gly Asp Ile Ile Leu Val Val Asp Asn Thr Phe Met Ser
 180 185 190

Pro Tyr Phe Gln Arg Pro Leu Ala Leu Gly Ala Asp Ile Cys Met Tyr
 195 200 205

Ser Ala Thr Lys Tyr Met Asn Gly His Ser Asp Val Val Met Gly Leu
 210 215 220

Val Ser Val Asn Cys Glu Ser Leu His Asn Arg Leu Arg Phe Leu Gln
 225 230 235 240

Asn Ser Leu Gly Ala Val Pro Ser Pro Ile Asp Cys Tyr Leu Cys Asn
 245 250 255

Arg Gly Leu Lys Thr Leu His Val Arg Met Glu Arg His Phe Lys Asn
 260 265 270

Gly Met Ala Val Ala Gln Phe Leu Glu Ser Asn Pro Trp Val Glu Lys
 275 280 285

Val Ile Tyr Pro Gly Leu Pro Ser His Pro Gln His Glu Leu Val Lys
 290 295 300

Arg Gln Cys Thr Gly Cys Gly Gly Met Val Thr Phe Tyr Ile Lys Gly
305 310 315 320

Thr Leu Gln His Ala Glu Ile Phe Leu Lys Asn Leu Lys Leu Phe Thr
325 330 335

Leu Ala Val Ser Leu Gly Gly Phe Glu Ser Leu Ala Glu Leu Pro Ala
340 345 350

Ser Met Thr His Ala Ser Val Leu Lys Asn Asp Arg Asp Val Leu Gly
355 360 365

Ile Ser Asp Thr Leu Ile Arg Leu Ser Val Gly Leu Glu Asp Glu Glu
370 375 380

Asp Leu Leu Glu Asp Leu Asp Gln Ala Leu Lys Ala Ala His Pro Pro
385 390 395 400

Ser Gly Ser His Ser
405

<210> 21

<211> 405

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic polypeptide

<400> 21

Met Gln Glu Lys Asp Ala Ser Ser Gln Gly Phe Leu Pro His Phe Gln
1 5 10 15

His Phe Ala Thr Gln Ala Ile His Val Gly Gln Asp Pro Glu Gln Trp
20 25 30

Thr Ser Arg Ala Leu Val Pro Pro Ile Ser Leu Ser Thr Thr Phe Lys

35				40				48				45			
Gln	Gly	Ala	Pro	Gly	Gln	His	Ser	Gly	Phe	Asn	Tyr	Ser	Arg	Leu	Gly
	50					55					60				
Asn	Pro	Thr	Arg	Asn	Cys	Leu	Glu	Lys	Ala	Val	Ala	Ala	Leu	Asp	Gly
65					70					75					80
Ala	Lys	Tyr	Cys	Leu	Ala	Phe	Ala	Ser	Gly	Met	Ala	Ala	Thr	Val	Thr
				85					90					95	
Ile	Thr	His	Leu	Leu	Lys	Ala	Gly	Asp	Gln	Ile	Ile	Cys	Met	Asp	Asp
			100					105					110		
Val	Tyr	Gly	Gly	Thr	Asn	Ala	Tyr	Phe	Arg	Gln	Val	Ala	Ser	Glu	Phe
		115					120					125			
Gly	Leu	Lys	Ile	Ser	Phe	Val	Asp	Cys	Ser	Lys	Ile	Lys	Leu	Leu	Glu
	130					135					140				
Ala	Ala	Ile	Thr	Pro	Glu	Thr	Lys	Leu	Val	Trp	Ile	Glu	Thr	Pro	Thr
145					150					155					160
Asn	Pro	Thr	Gln	Lys	Val	Ile	Asp	Ile	Glu	Ala	Cys	Ala	His	Ile	Val
				165					170					175	
His	Lys	His	Gly	Asp	Ile	Ile	Leu	Val	Val	Asp	Asn	Thr	Phe	Met	Ser
			180					185					190		
Pro	Tyr	Phe	Gln	Arg	Pro	Leu	Ala	Leu	Gly	Ala	Asp	Ile	Cys	Met	Tyr
		195					200					205			
Ser	Ala	Thr	Lys	Tyr	Met	Asn	Gly	His	Ser	Asp	Val	Val	Met	Gly	Leu
	210					215					220				
Val	Ser	Val	Asn	Cys	Glu	Ser	Leu	His	Asn	Arg	Leu	Arg	Phe	Leu	Gln
225					230					235					240

Asn Ser Leu Gly Ala Val Pro Ser Pro Ile Asp Cys Tyr Leu Cys Asn
 245 250 255

Arg Gly Leu Lys Thr Leu His Val Arg Met Glu Arg His Phe Lys Asn
 260 265 270

Gly Met Ala Val Ala Gln Phe Leu Glu Ser Asn Pro Trp Val Glu Lys
 275 280 285

Val Ile Tyr Pro Gly Leu Pro Ser His Pro Gln His Glu Leu Val Lys
 290 295 300

Arg Gln Cys Thr Gly Cys Gly Gly Met Val Thr Phe Tyr Ile Lys Gly
 305 310 315 320

Thr Leu Gln His Ala Glu Ile Phe Leu Lys Asn Leu Lys Leu Phe Thr
 325 330 335

Leu Ala Val Ser Leu Gly Gly Phe Glu Ser Leu Ala Glu Leu Pro Ala
 340 345 350

Ser Met Thr His Ala Ser Val Leu Lys Asn Asp Arg Asp Val Leu Gly
 355 360 365

Ile Ser Asp Thr Leu Ile Arg Leu Ser Val Gly Leu Glu Asp Glu Glu
 370 375 380

Asp Leu Leu Glu Asp Leu Asp Gln Ala Leu Lys Ala Ala His Pro Pro
 385 390 395 400

Ser Gly Ser His Ser
 405

<210> 22
 <211> 405
 <212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic polypeptide

<400> 22

Met Gln Glu Lys Asp Ala Ser Ser Gln Gly Phe Leu Pro His Phe Gln
1 5 10 15

His Phe Ala Thr Gln Ala Ile His Val Gly Gln Asp Pro Glu Gln Trp
20 25 30

Thr Ser Arg Ala Leu Val Pro Pro Ile Ser Leu Ser Thr Thr Phe Lys
35 40 45

Gln Gly Ala Pro Gly Gln His Ser Gly Phe Ile Tyr Ser Arg Leu Gly
50 55 60

Asn Pro Thr Arg Asn Cys Leu Glu Lys Ala Val Ala Ala Leu Asp Gly
65 70 75 80

Ala Lys Tyr Cys Leu Ala Phe Ala Ser Gly Met Ala Ala Thr Val Thr
85 90 95

Ile Thr His Leu Leu Lys Ala Gly Asp Gln Ile Ile Cys Met Asp Asp
100 105 110

Val Tyr Gly Gly Thr Asn Ala Tyr Phe Arg Gln Val Ala Ser Glu Phe
115 120 125

Gly Leu Lys Ile Ser Phe Val Asp Cys Ser Lys Ile Lys Leu Leu Glu
130 135 140

Ala Ala Ile Thr Pro Glu Thr Lys Leu Val Trp Ile Glu Thr Pro Thr
145 150 155 160

Asn Pro Thr Gln Lys Val Ile Asp Ile Glu Ala Cys Ala His Ile Val
165 170 175

His Lys His Gly Asp Ile Ile Leu Val Val Asp Asn Thr Phe Met Ser
 180 185 190

Pro Tyr Phe Gln Arg Pro Leu Ala Leu Gly Ala Asp Ile Cys Met Tyr
 195 200 205

Ser Ala Thr Lys Tyr Met Asn Gly His Ser Asp Val Val Met Gly Leu
 210 215 220

Val Ser Val Asn Cys Glu Ser Leu His Asn Arg Leu Arg Phe Leu Gln
 225 230 235 240

Asn Ser Leu Gly Ala Val Pro Ser Pro Ile Asp Cys Tyr Leu Cys Asn
 245 250 255

Arg Gly Leu Lys Thr Leu His Val Arg Met Glu Arg His Phe Lys Asn
 260 265 270

Gly Met Ala Val Ala Gln Phe Leu Glu Ser Asn Pro Trp Val Glu Lys
 275 280 285

Val Ile Tyr Pro Gly Leu Pro Ser His Pro Gln His Glu Leu Val Lys
 290 295 300

Arg Gln Cys Thr Gly Cys Gly Gly Met Val Thr Phe Tyr Ile Lys Gly
 305 310 315 320

Thr Leu Gln His Ala Glu Ile Phe Leu Lys Asn Leu Lys Leu Phe Thr
 325 330 335

Leu Ala Val Ser Leu Gly Gly Phe Glu Ser Leu Ala Glu Leu Pro Ala
 340 345 350

Ser Met Thr His Ala Ser Val Leu Lys Asn Asp Arg Asp Val Leu Gly
 355 360 365

Ile Ser Asp Thr Leu Ile Arg Leu Ser Val Gly Leu Glu Asp Glu Glu
 370 375 380

Asp Leu Leu Glu Asp Leu Asp Gln Ala Leu Lys Ala Ala His Pro Pro
 385 390 395 400

Ser Gly Ser His Ser
 405

<210> 23
 <211> 405
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic polypeptide

<400> 23

Met Gln Glu Lys Asp Ala Ser Ser Gln Gly Phe Leu Pro His Phe Gln
 1 5 10 15

His Phe Ala Thr Gln Ala Ile His Val Gly Gln Asp Pro Glu Gln Trp
 20 25 30

Thr Ser Lys Ala Leu Val Pro Pro Ile Ser Leu Ser Thr Thr Phe Lys
 35 40 45

Gln Gly Ala Pro Gly Gln His Ser Gly Phe Asn Tyr Ser Arg Leu Gly
 50 55 60

Asn Pro Thr Arg Asn Cys Leu Glu Lys Ala Val Ala Ala Leu Asp Gly
 65 70 75 80

Ala Lys Tyr Cys Leu Ala Phe Ala Ser Gly Met Ala Ala Thr Val Thr
 85 90 95

Ile Thr His Leu Leu Lys Ala Gly Asp Gln Ile Ile Cys Met Asp Asp
 100 105 110

Val Tyr Gly Gly Thr Asn Leu Tyr Phe Arg Gln Val Ala Ser Glu Phe
 115 120 125

Gly Leu Lys Ile Ser Phe Val Asp Cys Ser Lys Ile Lys Leu Leu Glu
 130 135 140

Ala Ala Ile Thr Pro Glu Thr Lys Leu Val Trp Ile Glu Thr Pro Thr
 145 150 155 160

Asn Pro Thr Gln Lys Val Ile Asp Ile Glu Ala Cys Ala His Ile Val
 165 170 175

His Lys His Gly Asp Ile Ile Leu Val Val Asp Asn Thr Phe Met Ser
 180 185 190

Pro Tyr Phe Gln Arg Pro Leu Ala Leu Gly Ala Asp Ile Cys Met Tyr
 195 200 205

Ser Ala Thr Lys Tyr Met Asn Gly His Ser Asp Val Val Ile Gly Leu
 210 215 220

Val Ser Val Asn Cys Glu Ser Leu His Asn Arg Leu Arg Phe Leu Gln
 225 230 235 240

Asn Ser Leu Gly Ala Val Pro Ser Pro Ile Asp Cys Tyr Leu Cys Asn
 245 250 255

Arg Gly Leu Lys Thr Leu His Val Arg Met Glu Arg His Phe Lys Asn
 260 265 270

Gly Met Ala Val Ala Gln Phe Leu Glu Ser Asn Pro Trp Val Glu Lys
 275 280 285

Val Ile Tyr Pro Gly Leu Pro Ser His Pro Gln His Glu Leu Val Lys
 290 295 300

Arg Gln Cys Thr Gly Cys Gly Gly Met Val Thr Phe Tyr Ile Lys Gly
305 310 315 320

Thr Leu Gln His Ala Glu Ile Phe Leu Lys Asn Leu Lys Leu Phe Thr
325 330 335

Leu Ala Val Ser Leu Gly Gly Phe Glu Ser Leu Ala Glu Leu Pro Ala
340 345 350

Ser Met Thr His Ala Ser Val Leu Lys Asn Asp Arg Asp Val Leu Gly
355 360 365

Ile Ser Asp Thr Leu Ile Arg Leu Ser Val Gly Leu Glu Asp Glu Glu
370 375 380

Asp Leu Leu Glu Asp Leu Asp Gln Ala Leu Lys Ala Ala His Pro Pro
385 390 395 400

Ser Gly Ser His Ser
405

<210> 24

<211> 405

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic polypeptide

<400> 24

Met Gln Glu Lys Asp Ala Ser Ser Gln Gly Phe Leu Pro His Phe Gln
1 5 10 15

His Phe Ala Thr Gln Ala Ile His Val Gly Gln Asp Pro Glu Gln Trp
20 25 30

Thr Ser Lys Ala Leu Val Pro Pro Ile Ser Leu Ser Thr Thr Phe Lys
35 40 45

Gln Gly Ala Pro Gly Gln His Ser Gly Phe Ile Tyr Ser Arg Leu Gly
 50 55 60

Asn Pro Thr Arg Asn Cys Leu Glu Lys Ala Val Ala Ala Leu Asp Gly
 65 70 75 80

Ala Lys Tyr Cys Leu Ala Phe Ala Ser Gly Met Ala Ala Thr Val Thr
 85 90 95

Ile Thr His Leu Leu Lys Ala Gly Asp Gln Ile Ile Cys Met Asp Asp
 100 105 110

Val Tyr Gly Gly Thr Asn Leu Tyr Phe Arg Gln Val Ala Ser Glu Phe
 115 120 125

Gly Leu Lys Ile Ser Phe Val Asp Cys Ser Lys Ile Lys Leu Leu Glu
 130 135 140

Ala Ala Ile Thr Pro Glu Thr Lys Leu Val Trp Ile Glu Thr Pro Thr
 145 150 155 160

Asn Pro Thr Gln Lys Val Ile Asp Ile Glu Ala Cys Ala His Ile Val
 165 170 175

His Lys His Gly Asp Ile Ile Leu Val Val Asp Asn Thr Phe Met Ser
 180 185 190

Pro Tyr Phe Gln Arg Pro Leu Ala Leu Gly Ala Asp Ile Cys Met Tyr
 195 200 205

Ser Ala Thr Lys Tyr Met Asn Gly His Ser Asp Val Val Ile Gly Leu
 210 215 220

Val Ser Val Asn Cys Glu Ser Leu His Asn Arg Leu Arg Phe Leu Gln
 225 230 235 240

Asn Ser Leu Gly Ala Val Pro Ser Pro Ile Asp Cys Tyr Leu Cys Asn
 245 250 255

Arg Gly Leu Lys Thr Leu His Val Arg Met Glu Arg His Phe Lys Asn
 260 265 270

Gly Met Ala Val Ala Gln Phe Leu Glu Ser Asn Pro Trp Val Glu Lys
 275 280 285

Val Ile Tyr Pro Gly Leu Pro Ser His Pro Gln His Glu Leu Val Lys
 290 295 300

Arg Gln Cys Thr Gly Cys Gly Gly Met Val Thr Phe Tyr Ile Lys Gly
 305 310 315 320

Thr Leu Gln His Ala Glu Ile Phe Leu Lys Asn Leu Lys Leu Phe Thr
 325 330 335

Leu Ala Val Ser Leu Gly Gly Phe Glu Ser Leu Ala Glu Leu Pro Ala
 340 345 350

Ser Met Thr His Ala Ser Val Leu Lys Asn Asp Arg Asp Val Leu Gly
 355 360 365

Ile Ser Asp Thr Leu Ile Arg Leu Ser Val Gly Leu Glu Asp Glu Glu
 370 375 380

Asp Leu Leu Glu Asp Leu Asp Gln Ala Leu Lys Ala Ala His Pro Pro
 385 390 395 400

Ser Gly Ser His Ser
 405

<210> 25

<211> 405

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic polypeptide

<400> 25

Met	Gln	Glu	Lys	Asp	Ala	Ser	Ser	Gln	Gly	Phe	Leu	Pro	His	Phe	Gln
1				5					10					15	

His	Phe	Ala	Thr	Gln	Ala	Ile	His	Val	Gly	Gln	Asp	Pro	Glu	Gln	Trp
			20					25					30		

Thr	Ser	Lys	Ala	Leu	Val	Pro	Pro	Ile	Ser	Leu	Ser	Thr	Thr	Phe	Lys
		35					40					45			

Gln	Gly	Ala	Pro	Gly	Gln	His	Ser	Gly	Phe	Asn	Tyr	Ser	Arg	Leu	Gly
	50					55					60				

Asn	Pro	Thr	Arg	Asn	Cys	Leu	Glu	Lys	Ala	Val	Ala	Ala	Leu	Asp	Gly
65					70					75					80

Ala	Lys	Tyr	Cys	Leu	Ala	Phe	Ala	Ser	Gly	Met	Ala	Ala	Thr	Val	Thr
				85					90					95	

Ile	Thr	His	Leu	Leu	Lys	Ala	Gly	Asp	Gln	Ile	Ile	Cys	Met	Asp	Asp
			100					105					110		

Val	Tyr	Gly	Gly	Thr	Asn	Ala	Tyr	Phe	Arg	Gln	Val	Ala	Ser	Glu	Phe
		115					120					125			

Gly	Leu	Lys	Ile	Ser	Phe	Val	Asp	Cys	Ser	Lys	Ile	Lys	Leu	Leu	Glu
	130					135					140				

Ala	Ala	Ile	Thr	Pro	Glu	Thr	Lys	Leu	Val	Trp	Ile	Glu	Thr	Pro	Thr
145					150					155					160

Asn	Pro	Thr	Gln	Lys	Val	Ile	Asp	Ile	Glu	Ala	Cys	Ala	His	Ile	Val
				165					170					175	

His Lys His Gly Asp Ile Ile Leu Val Val Asp Asn Thr Phe Met Ser
 180 185 190

Pro Tyr Phe Gln Arg Pro Leu Ala Leu Gly Ala Asp Ile Cys Met Tyr
 195 200 205

Ser Ala Thr Lys Tyr Met Asn Gly His Ser Asp Val Val Ile Gly Leu
 210 215 220

Val Ser Val Asn Cys Glu Ser Leu His Asn Arg Leu Arg Phe Leu Gln
 225 230 235 240

Asn Ser Leu Gly Ala Val Pro Ser Pro Ile Asp Cys Tyr Leu Cys Asn
 245 250 255

Arg Gly Leu Lys Thr Leu His Val Arg Met Glu Arg His Phe Lys Asn
 260 265 270

Gly Met Ala Val Ala Gln Phe Leu Glu Ser Asn Pro Trp Val Glu Lys
 275 280 285

Val Ile Tyr Pro Gly Leu Pro Ser His Pro Gln His Glu Leu Val Lys
 290 295 300

Arg Gln Cys Thr Gly Cys Gly Gly Met Val Thr Phe Tyr Ile Lys Gly
 305 310 315 320

Thr Leu Gln His Ala Glu Ile Phe Leu Lys Asn Leu Lys Leu Phe Thr
 325 330 335

Leu Ala Val Ser Leu Gly Gly Phe Glu Ser Leu Ala Glu Leu Pro Ala
 340 345 350

Ser Met Thr His Ala Ser Val Leu Lys Asn Asp Arg Asp Val Leu Gly
 355 360 365

Ile Ser Asp Thr Leu Ile Arg Leu Ser Val Gly Leu Glu Asp Glu Glu
370 375 59 380

Asp Leu Leu Glu Asp Leu Asp Gln Ala Leu Lys Ala Ala His Pro Pro
385 390 395 400

Ser Gly Ser His Ser
405

<210> 26
<211> 405
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic polypeptide

<400> 26

Met Gln Glu Lys Asp Ala Ser Ser Gln Gly Phe Leu Pro His Phe Gln
1 5 10 15

His Phe Ala Thr Gln Ala Ile His Val Gly Gln Asp Pro Glu Gln Trp
20 25 30

Thr Ser Lys Ala Leu Val Pro Pro Ile Ser Leu Ser Thr Thr Phe Lys
35 40 45

Gln Gly Ala Pro Gly Gln His Ser Gly Phe Ile Tyr Ser Arg Leu Gly
50 55 60

Asn Pro Thr Arg Asn Cys Leu Glu Lys Ala Val Ala Ala Leu Asp Gly
65 70 75 80

Ala Lys Tyr Cys Leu Ala Phe Ala Ser Gly Met Ala Ala Thr Val Thr
85 90 95

Ile Thr His Leu Leu Lys Ala Gly Asp Gln Ile Ile Cys Met Asp Asp
100 105 110

Val Tyr Gly Gly Thr Asn Ala Tyr Phe Arg Gln Val Ala Ser Glu Phe
 115 120 125

Gly Leu Lys Ile Ser Phe Val Asp Cys Ser Lys Ile Lys Leu Leu Glu
 130 135 140

Ala Ala Ile Thr Pro Glu Thr Lys Leu Val Trp Ile Glu Thr Pro Thr
 145 150 155 160

Asn Pro Thr Gln Lys Val Ile Asp Ile Glu Ala Cys Ala His Ile Val
 165 170 175

His Lys His Gly Asp Ile Ile Leu Val Val Asp Asn Thr Phe Met Ser
 180 185 190

Pro Tyr Phe Gln Arg Pro Leu Ala Leu Gly Ala Asp Ile Cys Met Tyr
 195 200 205

Ser Ala Thr Lys Tyr Met Asn Gly His Ser Asp Val Val Ile Gly Leu
 210 215 220

Val Ser Val Asn Cys Glu Ser Leu His Asn Arg Leu Arg Phe Leu Gln
 225 230 235 240

Asn Ser Leu Gly Ala Val Pro Ser Pro Ile Asp Cys Tyr Leu Cys Asn
 245 250 255

Arg Gly Leu Lys Thr Leu His Val Arg Met Glu Arg His Phe Lys Asn
 260 265 270

Gly Met Ala Val Ala Gln Phe Leu Glu Ser Asn Pro Trp Val Glu Lys
 275 280 285

Val Ile Tyr Pro Gly Leu Pro Ser His Pro Gln His Glu Leu Val Lys
 290 295 300

Arg Gln Cys Thr Gly Cys Gly Gly Met Val Thr Phe Tyr Ile Lys Gly
305 310 315 320

Thr Leu Gln His Ala Glu Ile Phe Leu Lys Asn Leu Lys Leu Phe Thr
325 330 335

Leu Ala Val Ser Leu Gly Gly Phe Glu Ser Leu Ala Glu Leu Pro Ala
340 345 350

Ser Met Thr His Ala Ser Val Leu Lys Asn Asp Arg Asp Val Leu Gly
355 360 365

Ile Ser Asp Thr Leu Ile Arg Leu Ser Val Gly Leu Glu Asp Glu Glu
370 375 380

Asp Leu Leu Glu Asp Leu Asp Gln Ala Leu Lys Ala Ala His Pro Pro
385 390 395 400

Ser Gly Ser His Ser
405

<210> 27
<211> 405
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic polypeptide

<400> 27

Met Gln Glu Lys Asp Ala Ser Ser Gln Gly Phe Leu Pro His Phe Gln
1 5 10 15

His Phe Ala Thr Gln Ala Ile His Val Gly Gln Asp Pro Glu Gln Trp
20 25 30

Thr Ser Arg Ala Val Val Pro Pro Ile Ser Leu Ser Thr Thr Phe Lys
35 40 45

Gln Gly Ala Pro Gly Gln His Ser Gly Phe Asn Tyr Ser Arg Ser Gly
 50 55 60

Asn Pro Thr Arg Asn Cys Leu Glu Lys Ala Val Ala Ala Leu Asp Gly
 65 70 75 80

Ala Lys Tyr Cys Leu Ala Phe Ala Ser Gly Leu Ala Ala Thr Val Thr
 85 90 95

Ile Thr His Leu Leu Lys Ala Gly Asp Gln Ile Ile Cys Met Asp Asp
 100 105 110

Val Tyr Gly Gly Thr Asn Leu Tyr Phe Arg Gln Val Ala Ser Glu Phe
 115 120 125

Gly Leu Lys Ile Ser Phe Val Asp Cys Ser Lys Ile Lys Leu Leu Glu
 130 135 140

Ala Ala Ile Thr Pro Glu Thr Lys Leu Val Trp Ile Glu Thr Pro Thr
 145 150 155 160

Asn Pro Thr Gln Lys Val Ile Asp Ile Glu Gly Cys Ala His Ile Val
 165 170 175

His Lys His Gly Asp Ile Ile Leu Val Val Asp Asn Thr Phe Met Ser
 180 185 190

Pro Tyr Phe Gln Arg Pro Leu Ala Leu Gly Ala Asp Ile Ser Met Tyr
 195 200 205

Ser Ala Thr Lys Tyr Met Asn Gly His Ser Asp Val Val Met Gly Leu
 210 215 220

Val Ser Val Asn Cys Glu Ser Leu His Asn Arg Leu Arg Phe Leu Gln
 225 230 235 240

Asn Ser Leu Gly Ala Val Pro Ser Pro Ile Asp Cys Tyr Leu Cys Asn
245 250 255 63

Arg Gly Leu Lys Thr Leu His Val Arg Met Glu Lys His Phe Lys Asn
260 265 270

Gly Met Ala Val Ala Gln Phe Leu Glu Ser Asn Pro Trp Val Glu Lys
275 280 285

Val Ile Tyr Pro Gly Leu Pro Ser His Pro Gln His Glu Leu Val Lys
290 295 300

Arg Gln Cys Thr Gly Cys Thr Gly Met Val Thr Phe Tyr Ile Lys Gly
305 310 315 320

Thr Leu Gln His Ala Glu Ile Phe Leu Lys Asn Leu Lys Leu Phe Asp
325 330 335

Leu Ala Val Ser Leu Gly Gly Phe Glu Ser Leu Ala Glu Leu Pro Ala
340 345 350

Ile Met Thr His Ala Ser Val Leu Lys Asn Asp Arg Asp Val Leu Gly
355 360 365

Ile Ser Asp Thr Leu Ile Arg Leu Ser Val Gly Leu Glu Asp Glu Glu
370 375 380

Asp Leu Leu Glu Asp Leu Asp Gln Ala Leu Lys Ala Ala His Pro Pro
385 390 395 400

Ser Gly Ser His Ser
405

<210> 28
<211> 405
<212> PRT
<213> Artificial Sequence

<220>

<223> Synthetic polypeptide

<400> 28

Met	Gln	Glu	Lys	Asp	Ala	Ser	Ser	Gln	Gly	Phe	Leu	Pro	His	Phe	Gln
1				5					10					15	

His	Phe	Ala	Thr	Gln	Ala	Ile	His	Val	Gly	Gln	Asp	Pro	Glu	Gln	Trp
			20					25					30		

Thr	Ser	Arg	Ala	Val	Val	Pro	Pro	Ile	Ser	Leu	Ser	Thr	Thr	Phe	Lys
		35					40					45			

Gln	Gly	Ala	Pro	Gly	Gln	His	Ser	Gly	Phe	Asn	Tyr	Ser	Arg	Leu	Gly
	50					55					60				

Asn	Pro	Thr	Arg	Asn	Cys	Leu	Glu	Lys	Ala	Val	Ala	Ala	Leu	Asp	Gly
65					70					75					80

Ala	Lys	Tyr	Cys	Leu	Ala	Phe	Ala	Ser	Gly	Met	Ala	Ala	Thr	Val	Thr
				85					90					95	

Ile	Thr	His	Leu	Leu	Lys	Ala	Gly	Asp	Gln	Ile	Ile	Cys	Met	Asp	Asp
			100					105					110		

Val	Tyr	Gly	Gly	Thr	Asn	Leu	Tyr	Phe	Arg	Gln	Val	Ala	Ser	Glu	Phe
		115					120					125			

Gly	Leu	Lys	Ile	Ser	Phe	Val	Asp	Cys	Ser	Lys	Ile	Lys	Leu	Leu	Glu
	130					135					140				

Ala	Ala	Ile	Thr	Pro	Glu	Thr	Lys	Leu	Val	Trp	Ile	Glu	Thr	Pro	Thr
145					150					155					160

Asn	Pro	Thr	Gln	Lys	Val	Ile	Asp	Ile	Glu	Gly	Cys	Ala	His	Ile	Val
				165					170					175	

His Lys His Gly Asp Ile Ile Leu Val Val Asp Asn Thr Phe Met Ser
180 185 190

Pro Tyr Phe Gln Arg Pro Leu Ala Leu Gly Ala Asp Ile Ser Met Tyr
195 200 205

Ser Ala Thr Lys Tyr Met Asn Gly His Ser Asp Val Val Met Gly Leu
210 215 220

Val Ser Val Asn Cys Glu Ser Leu His Asn Arg Leu Arg Phe Leu Gln
225 230 235 240

Asn Ser Leu Gly Ala Val Pro Ser Pro Ile Asp Cys Tyr Leu Cys Asn
245 250 255

Arg Gly Leu Lys Thr Leu His Val Arg Met Glu Arg His Phe Lys Asn
260 265 270

Gly Met Ala Val Ala Gln Phe Leu Glu Ser Asn Pro Trp Val Glu Lys
275 280 285

Val Ile Tyr Pro Gly Leu Pro Ser His Pro Gln His Glu Leu Val Lys
290 295 300

Arg Gln Cys Thr Gly Cys Gly Gly Met Val Thr Phe Tyr Ile Lys Gly
305 310 315 320

Thr Leu Gln His Ala Glu Ile Phe Leu Lys Asn Leu Lys Leu Phe Asp
325 330 335

Leu Ala Val Ser Leu Gly Gly Phe Glu Ser Leu Ala Glu Leu Pro Ala
340 345 350

Ser Met Thr His Ala Ser Val Leu Lys Asn Asp Arg Asp Val Leu Gly
355 360 365

Ile Ser Asp Thr Leu Ile Arg Leu Ser Val Gly Leu Glu Asp Glu Glu

370

375

66

380

Asp Leu Leu Glu Asp Leu Asp Gln Ala Leu Lys Ala Ala His Pro Pro
 385 390 395 400

Ser Gly Ser His Ser
 405

<210> 29

<211> 405

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic polypeptide

<400> 29

Met Gln Glu Lys Asp Ala Ser Ser Gln Gly Phe Leu Pro His Phe Gln
 1 5 10 15

His Phe Ala Thr Gln Ala Ile His Val Gly Gln Asp Pro Glu Gln Trp
 20 25 30

Thr Ser Arg Ala Val Val Pro Pro Ile Ser Leu Ser Thr Thr Phe Lys
 35 40 45

Gln Gly Ala Pro Gly Gln His Ser Gly Phe Ile Tyr Ser Arg Leu Gly
 50 55 60

Asn Pro Thr Arg Asn Cys Leu Glu Lys Ala Val Ala Ala Leu Asp Gly
 65 70 75 80

Ala Lys Tyr Cys Leu Ala Phe Ala Ser Gly Met Ala Ala Thr Val Thr
 85 90 95

Ile Thr His Leu Leu Lys Ala Gly Asp Gln Ile Ile Cys Met Asp Asp
 100 105 110

Val Tyr Gly Gly Thr Asn Leu Tyr Phe Arg Gln Val Ala Ser Glu Phe
115 120 125 67

Gly Leu Lys Ile Ser Phe Val Asp Cys Ser Lys Ile Lys Leu Leu Glu
130 135 140

Ala Ala Ile Thr Pro Glu Thr Lys Leu Val Trp Ile Glu Thr Pro Thr
145 150 155 160

Asn Pro Thr Gln Lys Val Ile Asp Ile Glu Gly Cys Ala His Ile Val
165 170 175

His Lys His Gly Asp Ile Ile Leu Val Val Asp Asn Thr Phe Met Ser
180 185 190

Pro Tyr Phe Gln Arg Pro Leu Ala Leu Gly Ala Asp Ile Ser Met Tyr
195 200 205

Ser Ala Thr Lys Tyr Met Asn Gly His Ser Asp Val Val Met Gly Leu
210 215 220

Val Ser Val Asn Cys Glu Ser Leu His Asn Arg Leu Arg Phe Leu Gln
225 230 235 240

Asn Ser Leu Gly Ala Val Pro Ser Pro Ile Asp Cys Tyr Leu Cys Asn
245 250 255

Arg Gly Leu Lys Thr Leu His Val Arg Met Glu Arg His Phe Lys Asn
260 265 270

Gly Met Ala Val Ala Gln Phe Leu Glu Ser Asn Pro Trp Val Glu Lys
275 280 285

Val Ile Tyr Pro Gly Leu Pro Ser His Pro Gln His Glu Leu Val Lys
290 295 300

Arg Gln Cys Thr Gly Cys Gly Gly Met Val Thr Phe Tyr Ile Lys Gly

Gln Gly Ala Pro Gly Gln His Ser Gly Phe Asn Tyr Ser Arg Leu Gly
50 55 60 69

Asn Pro Thr Arg Asn Cys Leu Glu Lys Ala Val Ala Ala Leu Asp Gly
65 70 75 80

Ala Lys Tyr Cys Leu Ala Phe Ala Ser Gly Met Ala Ala Thr Val Thr
85 90 95

Ile Thr His Leu Leu Lys Ala Gly Asp Gln Ile Ile Cys Met Asp Asp
100 105 110

Val Tyr Gly Gly Thr Asn Ala Tyr Phe Arg Gln Val Ala Ser Glu Phe
115 120 125

Gly Leu Lys Ile Ser Phe Val Asp Cys Ser Lys Ile Lys Leu Leu Glu
130 135 140

Ala Ala Ile Thr Pro Glu Thr Lys Leu Val Trp Ile Glu Thr Pro Thr
145 150 155 160

Asn Pro Thr Gln Lys Val Ile Asp Ile Glu Gly Cys Ala His Ile Val
165 170 175

His Lys His Gly Asp Ile Ile Leu Val Val Asp Asn Thr Phe Met Ser
180 185 190

Pro Tyr Phe Gln Arg Pro Leu Ala Leu Gly Ala Asp Ile Ser Met Tyr
195 200 205

Ser Ala Thr Lys Tyr Met Asn Gly His Ser Asp Val Val Met Gly Leu
210 215 220

Val Ser Val Asn Cys Glu Ser Leu His Asn Arg Leu Arg Phe Leu Gln
225 230 235 240

Asn Ser Leu Gly Ala Val Pro Ser Pro Ile Asp Cys Tyr Leu Cys Asn

<223> Synthetic polypeptide

<400> 31

Met Gln Glu Lys Asp Ala Ser Ser Gln Gly Phe Leu Pro His Phe Gln
1 5 10 15

His Phe Ala Thr Gln Ala Ile His Val Gly Gln Asp Pro Glu Gln Trp
20 25 30

Thr Ser Arg Ala Val Val Pro Pro Ile Ser Leu Ser Thr Thr Phe Lys
35 40 45

Gln Gly Ala Pro Gly Gln His Ser Gly Phe Ile Tyr Ser Arg Leu Gly
50 55 60

Asn Pro Thr Arg Asn Cys Leu Glu Lys Ala Val Ala Ala Leu Asp Gly
65 70 75 80

Ala Lys Tyr Cys Leu Ala Phe Ala Ser Gly Met Ala Ala Thr Val Thr
85 90 95

Ile Thr His Leu Leu Lys Ala Gly Asp Gln Ile Ile Cys Met Asp Asp
100 105 110

Val Tyr Gly Gly Thr Asn Ala Tyr Phe Arg Gln Val Ala Ser Glu Phe
115 120 125

Gly Leu Lys Ile Ser Phe Val Asp Cys Ser Lys Ile Lys Leu Leu Glu
130 135 140

Ala Ala Ile Thr Pro Glu Thr Lys Leu Val Trp Ile Glu Thr Pro Thr
145 150 155 160

Asn Pro Thr Gln Lys Val Ile Asp Ile Glu Gly Cys Ala His Ile Val
165 170 175

His Lys His Gly Asp Ile Ile Leu Val Val Asp Asn Thr Phe Met Ser

180

185

190

Pro Tyr Phe Gln Arg Pro Leu Ala Leu Gly Ala Asp Ile Ser Met Tyr
 195 200 205

Ser Ala Thr Lys Tyr Met Asn Gly His Ser Asp Val Val Met Gly Leu
 210 215 220

Val Ser Val Asn Cys Glu Ser Leu His Asn Arg Leu Arg Phe Leu Gln
 225 230 235 240

Asn Ser Leu Gly Ala Val Pro Ser Pro Ile Asp Cys Tyr Leu Cys Asn
 245 250 255

Arg Gly Leu Lys Thr Leu His Val Arg Met Glu Arg His Phe Lys Asn
 260 265 270

Gly Met Ala Val Ala Gln Phe Leu Glu Ser Asn Pro Trp Val Glu Lys
 275 280 285

Val Ile Tyr Pro Gly Leu Pro Ser His Pro Gln His Glu Leu Val Lys
 290 295 300

Arg Gln Cys Thr Gly Cys Gly Gly Met Val Thr Phe Tyr Ile Lys Gly
 305 310 315 320

Thr Leu Gln His Ala Glu Ile Phe Leu Lys Asn Leu Lys Leu Phe Asp
 325 330 335

Leu Ala Val Ser Leu Gly Gly Phe Glu Ser Leu Ala Glu Leu Pro Ala
 340 345 350

Ser Met Thr His Ala Ser Val Leu Lys Asn Asp Arg Asp Val Leu Gly
 355 360 365

Ile Ser Asp Thr Leu Ile Arg Leu Ser Val Gly Leu Glu Asp Glu Glu
 370 375 380

Asp Leu Leu Glu Asp Leu Asp Gln Ala Leu Lys Ala Ala His Pro Pro
 385 390 395 400

Ser Gly Ser His Ser
 405

<210> 32
 <211> 405
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic polypeptide

<400> 32

Met Gln Glu Lys Asp Ala Ser Ser Gln Gly Phe Leu Pro His Phe Gln
 1 5 10 15

His Phe Ala Thr Gln Ala Ile His Val Gly Gln Asp Pro Glu Gln Trp
 20 25 30

Thr Ser Arg Ala Val Val Pro Pro Ile Ser Leu Ser Thr Thr Phe Lys
 35 40 45

Gln Gly Ala Pro Gly Gln His Ser Gly Phe Asn Tyr Ser Arg Ser Gly
 50 55 60

Asn Pro Thr Arg Asn Cys Leu Glu Lys Ala Val Ala Ala Leu Asp Gly
 65 70 75 80

Ala Lys Tyr Cys Leu Ala Phe Ala Ser Gly Leu Ala Ala Thr Val Thr
 85 90 95

Ile Thr His Leu Leu Lys Ala Gly Asp Gln Ile Ile Cys Met Asp Asp
 100 105 110

Val Tyr Gly Gly Thr Asn Leu Tyr Phe Arg Gln Val Ala Ser Glu Phe

115					120					74		125					
Gly	Leu	Lys	Ile	Ser	Phe	Val	Asp	Cys	Ser	Lys	Ile	Lys	Leu	Leu	Glu		
130							135							140			
Ala	Ala	Ile	Thr	Pro	Glu	Thr	Lys	Leu	Val	Trp	Ile	Glu	Thr	Pro	Thr		
145							150							155		160	
Asn	Pro	Thr	Gln	Lys	Val	Ile	Asp	Ile	Glu	Gly	Cys	Ala	His	Ile	Val		
									170							175	
His	Lys	His	Gly	Asp	Ile	Ile	Leu	Val	Val	Asp	Asn	Thr	Phe	Met	Ser		
									185							190	
Pro	Tyr	Phe	Gln	Arg	Pro	Leu	Ala	Leu	Gly	Ala	Asp	Ile	Ser	Met	Tyr		
							200							205			
Ser	Ala	Thr	Lys	Tyr	Met	Asn	Gly	His	Ser	Asp	Val	Val	Met	Gly	Leu		
210							215							220			
Val	Ser	Val	Asn	Cys	Glu	Ser	Leu	His	Asn	Arg	Leu	Arg	Phe	Leu	Gln		
225							230							235		240	
Asn	Ser	Leu	Gly	Ala	Val	Pro	Ser	Pro	Ile	Asp	Cys	Tyr	Leu	Cys	Asn		
									250							255	
Arg	Gly	Leu	Lys	Thr	Leu	His	Val	Arg	Met	Glu	Lys	His	Phe	Lys	Asn		
									265							270	
Gly	Met	Ala	Val	Ala	Gln	Phe	Leu	Glu	Ser	Asn	Pro	Trp	Val	Glu	Lys		
							280							285			
Val	Ile	Tyr	Pro	Gly	Leu	Pro	Ser	His	Pro	Gln	His	Glu	Leu	Val	Lys		
290							295							300			
Arg	Gln	Cys	Thr	Gly	Cys	Thr	Gly	Met	Val	Thr	Phe	Tyr	Ile	Lys	Gly		
305							310							315		320	

Thr Leu Gln His Ala Glu Ile Phe Leu Lys Asn Leu Lys Leu Phe Glu
 325 330 335

Leu Ala Val Ser Leu Gly Gly Phe Glu Ser Leu Ala Glu Leu Pro Ala
 340 345 350

Ile Met Thr His Ala Ser Val Leu Lys Asn Asp Arg Asp Val Leu Gly
 355 360 365

Ile Ser Asp Thr Leu Ile Arg Leu Ser Val Gly Leu Glu Asp Glu Glu
 370 375 380

Asp Leu Leu Glu Asp Leu Asp Gln Ala Leu Lys Ala Ala His Pro Pro
 385 390 395 400

Ser Gly Ser His Ser
 405

<210> 33

<211> 405

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic polypeptide

<400> 33

Met Gln Glu Lys Asp Ala Ser Ser Gln Gly Phe Leu Pro His Phe Gln
 1 5 10 15

His Phe Ala Thr Gln Ala Ile His Val Gly Gln Asp Pro Glu Gln Trp
 20 25 30

Thr Ser Arg Ala Val Val Pro Pro Ile Ser Leu Ser Thr Thr Phe Lys
 35 40 45

Gln Gly Ala Pro Gly Gln His Ser Gly Phe Asn Tyr Ser Arg Leu Gly

50		55		76		60											
Asn	Pro	Thr	Arg	Asn	Cys	Leu	Glu	Lys	Ala	Val	Ala	Ala	Leu	Asp	Gly		
65					70					75					80		
Ala	Lys	Tyr	Cys	Leu	Ala	Phe	Ala	Ser	Gly	Met	Ala	Ala	Thr	Val	Thr		
				85					90					95			
Ile	Thr	His	Leu	Leu	Lys	Ala	Gly	Asp	Gln	Ile	Ile	Cys	Met	Asp	Asp		
			100					105					110				
Val	Tyr	Gly	Gly	Thr	Asn	Leu	Tyr	Phe	Arg	Gln	Val	Ala	Ser	Glu	Phe		
		115					120					125					
Gly	Leu	Lys	Ile	Ser	Phe	Val	Asp	Cys	Ser	Lys	Ile	Lys	Leu	Leu	Glu		
	130					135					140						
Ala	Ala	Ile	Thr	Pro	Glu	Thr	Lys	Leu	Val	Trp	Ile	Glu	Thr	Pro	Thr		
145					150					155					160		
Asn	Pro	Thr	Gln	Lys	Val	Ile	Asp	Ile	Glu	Gly	Cys	Ala	His	Ile	Val		
				165					170					175			
His	Lys	His	Gly	Asp	Ile	Ile	Leu	Val	Val	Asp	Asn	Thr	Phe	Met	Ser		
			180					185					190				
Pro	Tyr	Phe	Gln	Arg	Pro	Leu	Ala	Leu	Gly	Ala	Asp	Ile	Ser	Met	Tyr		
		195					200					205					
Ser	Ala	Thr	Lys	Tyr	Met	Asn	Gly	His	Ser	Asp	Val	Val	Met	Gly	Leu		
	210					215					220						
Val	Ser	Val	Asn	Cys	Glu	Ser	Leu	His	Asn	Arg	Leu	Arg	Phe	Leu	Gln		
225					230				235						240		
Asn	Ser	Leu	Gly	Ala	Val	Pro	Ser	Pro	Ile	Asp	Cys	Tyr	Leu	Cys	Asn		
				245					250					255			

Arg Gly Leu Lys Thr Leu His Val Arg Met Glu Arg His Phe Lys Asn
 260 265 270

Gly Met Ala Val Ala Gln Phe Leu Glu Ser Asn Pro Trp Val Glu Lys
 275 280 285

Val Ile Tyr Pro Gly Leu Pro Ser His Pro Gln His Glu Leu Val Lys
 290 295 300

Arg Gln Cys Thr Gly Cys Gly Gly Met Val Thr Phe Tyr Ile Lys Gly
 305 310 315 320

Thr Leu Gln His Ala Glu Ile Phe Leu Lys Asn Leu Lys Leu Phe Glu
 325 330 335

Leu Ala Val Ser Leu Gly Gly Phe Glu Ser Leu Ala Glu Leu Pro Ala
 340 345 350

Ser Met Thr His Ala Ser Val Leu Lys Asn Asp Arg Asp Val Leu Gly
 355 360 365

Ile Ser Asp Thr Leu Ile Arg Leu Ser Val Gly Leu Glu Asp Glu Glu
 370 375 380

Asp Leu Leu Glu Asp Leu Asp Gln Ala Leu Lys Ala Ala His Pro Pro
 385 390 395 400

Ser Gly Ser His Ser
 405

<210> 34

<211> 405

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic polypeptide

<400> 34

Met Gln Glu Lys Asp Ala Ser Ser Gln Gly Phe Leu Pro His Phe Gln
 1 5 10 15

His Phe Ala Thr Gln Ala Ile His Val Gly Gln Asp Pro Glu Gln Trp
 20 25 30

Thr Ser Arg Ala Val Val Pro Pro Ile Ser Leu Ser Thr Thr Phe Lys
 35 40 45

Gln Gly Ala Pro Gly Gln His Ser Gly Phe Ile Tyr Ser Arg Leu Gly
 50 55 60

Asn Pro Thr Arg Asn Cys Leu Glu Lys Ala Val Ala Ala Leu Asp Gly
 65 70 75 80

Ala Lys Tyr Cys Leu Ala Phe Ala Ser Gly Met Ala Ala Thr Val Thr
 85 90 95

Ile Thr His Leu Leu Lys Ala Gly Asp Gln Ile Ile Cys Met Asp Asp
 100 105 110

Val Tyr Gly Gly Thr Asn Leu Tyr Phe Arg Gln Val Ala Ser Glu Phe
 115 120 125

Gly Leu Lys Ile Ser Phe Val Asp Cys Ser Lys Ile Lys Leu Leu Glu
 130 135 140

Ala Ala Ile Thr Pro Glu Thr Lys Leu Val Trp Ile Glu Thr Pro Thr
 145 150 155 160

Asn Pro Thr Gln Lys Val Ile Asp Ile Glu Gly Cys Ala His Ile Val
 165 170 175

His Lys His Gly Asp Ile Ile Leu Val Val Asp Asn Thr Phe Met Ser
 180 185 190

Pro Tyr Phe Gln Arg Pro Leu Ala Leu Gly Ala Asp Ile Ser Met Tyr
 195 200 205

Ser Ala Thr Lys Tyr Met Asn Gly His Ser Asp Val Val Met Gly Leu
 210 215 220

Val Ser Val Asn Cys Glu Ser Leu His Asn Arg Leu Arg Phe Leu Gln
 225 230 235 240

Asn Ser Leu Gly Ala Val Pro Ser Pro Ile Asp Cys Tyr Leu Cys Asn
 245 250 255

Arg Gly Leu Lys Thr Leu His Val Arg Met Glu Arg His Phe Lys Asn
 260 265 270

Gly Met Ala Val Ala Gln Phe Leu Glu Ser Asn Pro Trp Val Glu Lys
 275 280 285

Val Ile Tyr Pro Gly Leu Pro Ser His Pro Gln His Glu Leu Val Lys
 290 295 300

Arg Gln Cys Thr Gly Cys Gly Gly Met Val Thr Phe Tyr Ile Lys Gly
 305 310 315 320

Thr Leu Gln His Ala Glu Ile Phe Leu Lys Asn Leu Lys Leu Phe Glu
 325 330 335

Leu Ala Val Ser Leu Gly Gly Phe Glu Ser Leu Ala Glu Leu Pro Ala
 340 345 350

Ser Met Thr His Ala Ser Val Leu Lys Asn Asp Arg Asp Val Leu Gly
 355 360 365

Ile Ser Asp Thr Leu Ile Arg Leu Ser Val Gly Leu Glu Asp Glu Glu
 370 375 380

80

Asp Leu Leu Glu Asp Leu Asp Gln Ala Leu Lys Ala Ala His Pro Pro
385 390 395 400

Ser Gly Ser His Ser
405

<210> 35
<211> 405
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic polypeptide

<400> 35

Met Gln Glu Lys Asp Ala Ser Ser Gln Gly Phe Leu Pro His Phe Gln
1 5 10 15

His Phe Ala Thr Gln Ala Ile His Val Gly Gln Asp Pro Glu Gln Trp
20 25 30

Thr Ser Arg Ala Val Val Pro Pro Ile Ser Leu Ser Thr Thr Phe Lys
35 40 45

Gln Gly Ala Pro Gly Gln His Ser Gly Phe Asn Tyr Ser Arg Leu Gly
50 55 60

Asn Pro Thr Arg Asn Cys Leu Glu Lys Ala Val Ala Ala Leu Asp Gly
65 70 75 80

Ala Lys Tyr Cys Leu Ala Phe Ala Ser Gly Met Ala Ala Thr Val Thr
85 90 95

Ile Thr His Leu Leu Lys Ala Gly Asp Gln Ile Ile Cys Met Asp Asp
100 105 110

Val Tyr Gly Gly Thr Asn Ala Tyr Phe Arg Gln Val Ala Ser Glu Phe
115 120 125

Gly Leu Lys Ile Ser Phe Val Asp Cys Ser Lys Ile Lys Leu Leu Glu
 130 135 140

Ala Ala Ile Thr Pro Glu Thr Lys Leu Val Trp Ile Glu Thr Pro Thr
 145 150 155 160

Asn Pro Thr Gln Lys Val Ile Asp Ile Glu Gly Cys Ala His Ile Val
 165 170 175

His Lys His Gly Asp Ile Ile Leu Val Val Asp Asn Thr Phe Met Ser
 180 185 190

Pro Tyr Phe Gln Arg Pro Leu Ala Leu Gly Ala Asp Ile Ser Met Tyr
 195 200 205

Ser Ala Thr Lys Tyr Met Asn Gly His Ser Asp Val Val Met Gly Leu
 210 215 220

Val Ser Val Asn Cys Glu Ser Leu His Asn Arg Leu Arg Phe Leu Gln
 225 230 235 240

Asn Ser Leu Gly Ala Val Pro Ser Pro Ile Asp Cys Tyr Leu Cys Asn
 245 250 255

Arg Gly Leu Lys Thr Leu His Val Arg Met Glu Arg His Phe Lys Asn
 260 265 270

Gly Met Ala Val Ala Gln Phe Leu Glu Ser Asn Pro Trp Val Glu Lys
 275 280 285

Val Ile Tyr Pro Gly Leu Pro Ser His Pro Gln His Glu Leu Val Lys
 290 295 300

Arg Gln Cys Thr Gly Cys Gly Gly Met Val Thr Phe Tyr Ile Lys Gly
 305 310 315 320

Leu Ala Val Ser Leu Gly Gly Phe Glu Ser Leu Ala Glu Leu Pro Ala
340 345 350

Ser Met Thr His Ala Ser Val Leu Lys Asn Asp Arg Asp Val Leu Gly
355 360 365

Ile Ser Asp Thr Leu Ile Arg Leu Ser Val Gly Leu Glu Asp Glu Glu
370 375 380

Asp Leu Leu Glu Asp Leu Asp Gln Ala Leu Lys Ala Ala His Pro Pro
385 390 395 400

Ser Gly Ser His Ser
405

<210>	36
<211>	405
<212>	PRT
<213>	Artificial Sequence

<220>
<223> Synthetic polypeptide

<400> 36

Met Gln Glu Lys Asp Ala Ser Ser Gln Gly Phe Leu Pro His Phe Gln
1 5 10 15

His Phe Ala Thr Gln Ala Ile His Val Gly Gln Asp Pro Glu Gln Trp
20 25 30

Thr Ser Arg Ala Val Val Pro Pro Ile Ser Leu Ser Thr Thr Phe Lys
35 40 45

Gln Gly Ala Pro Gly Gln His Ser Gly Phe Ile Tyr Ser Arg Leu Gly
50 55 60

Asn Pro Thr Arg Asn Cys Leu Glu Lys Ala Val Ala Ala Leu Asp Gly
65 70 75 80

Ala Lys Tyr Cys Leu Ala Phe Ala Ser Gly Met Ala Ala Thr Val Thr
85 90 95

Ile Thr His Leu Leu Lys Ala Gly Asp Gln Ile Ile Cys Met Asp Asp
100 105 110

Val Tyr Gly Gly Thr Asn Ala Tyr Phe Arg Gln Val Ala Ser Glu Phe
115 120 125

Gly Leu Lys Ile Ser Phe Val Asp Cys Ser Lys Ile Lys Leu Leu Glu
130 135 140

Ala Ala Ile Thr Pro Glu Thr Lys Leu Val Trp Ile Glu Thr Pro Thr
145 150 155 160

Asn Pro Thr Gln Lys Val Ile Asp Ile Glu Gly Cys Ala His Ile Val
165 170 175

His Lys His Gly Asp Ile Ile Leu Val Val Asp Asn Thr Phe Met Ser
180 185 190

Pro Tyr Phe Gln Arg Pro Leu Ala Leu Gly Ala Asp Ile Ser Met Tyr
195 200 205

Ser Ala Thr Lys Tyr Met Asn Gly His Ser Asp Val Val Met Gly Leu
210 215 220

Val Ser Val Asn Cys Glu Ser Leu His Asn Arg Leu Arg Phe Leu Gln
225 230 235 240

Asn Ser Leu Gly Ala Val Pro Ser Pro Ile Asp Cys Tyr Leu Cys Asn
245 250 255

Arg Gly Leu Lys Thr Leu His Val Arg Met Glu Arg His Phe Lys Asn
 260 265 270

Gly Met Ala Val Ala Gln Phe Leu Glu Ser Asn Pro Trp Val Glu Lys
 275 280 285

Val Ile Tyr Pro Gly Leu Pro Ser His Pro Gln His Glu Leu Val Lys
 290 295 300

Arg Gln Cys Thr Gly Cys Gly Gly Met Val Thr Phe Tyr Ile Lys Gly
 305 310 315 320

Thr Leu Gln His Ala Glu Ile Phe Leu Lys Asn Leu Lys Leu Phe Glu
 325 330 335

Leu Ala Val Ser Leu Gly Gly Phe Glu Ser Leu Ala Glu Leu Pro Ala
 340 345 350

Ser Met Thr His Ala Ser Val Leu Lys Asn Asp Arg Asp Val Leu Gly
 355 360 365

Ile Ser Asp Thr Leu Ile Arg Leu Ser Val Gly Leu Glu Asp Glu Glu
 370 375 380

Asp Leu Leu Glu Asp Leu Asp Gln Ala Leu Lys Ala Ala His Pro Pro
 385 390 395 400

Ser Gly Ser His Ser
 405

<210> 37
 <211> 405
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic polypeptide

<400> 37

Met Gln Glu Lys Asp Ala Ser Ser Gln Gly Phe Leu Pro His Phe Gln
 1 5 10 15

His Phe Ala Thr Gln Ala Ile His Val Gly Gln Asp Pro Glu Gln Trp
 20 25 30

Thr Ser Arg Ala Val Val Pro Pro Ile Ser Leu Ser Thr Thr Phe Lys
 35 40 45

Gln Gly Ala Pro Gly Gln His Ser Gly Phe Ile Tyr Ser Arg Leu Gly
 50 55 60

Asn Pro Thr Arg Asn Cys Leu Glu Lys Ala Val Ala Ala Leu Asp Gly
 65 70 75 80

Ala Lys Tyr Cys Leu Ala Phe Ala Ser Gly Met Ala Ala Thr Val Thr
 85 90 95

Ile Thr His Leu Leu Lys Ala Gly Asp Gln Ile Ile Cys Met Asp Asp
 100 105 110

Val Tyr Gly Gly Thr Asn Asp Tyr Phe Arg Gln Val Ala Ser Glu Phe
 115 120 125

Gly Leu Lys Ile Ser Phe Val Asp Cys Ser Lys Ile Lys Leu Leu Glu
 130 135 140

Ala Ala Ile Thr Pro Glu Thr Lys Leu Val Trp Ile Glu Thr Pro Thr
 145 150 155 160

Asn Pro Thr Gln Lys Val Ile Asp Ile Glu Gly Cys Ala His Ile Val
 165 170 175

His Lys His Gly Asp Ile Ile Leu Val Val Asp Asn Thr Phe Met Ser
 180 185 190

Pro Tyr Phe Gln Arg Pro Leu Ala Leu Gly Ala Asp Ile Ser Met Tyr
 195 200 205

Ser Ala Thr Lys Tyr Met Asn Gly His Ser Asp Val Val Met Gly Leu
 210 215 220

Val Ser Val Asn Cys Glu Ser Leu His Asn Arg Leu Arg Phe Leu Gln
 225 230 235 240

Asn Ser Leu Gly Ala Val Pro Ser Pro Ile Asp Cys Tyr Leu Cys Asn
 245 250 255

Arg Gly Leu Lys Thr Leu His Val Arg Met Glu Arg His Phe Lys Asn
 260 265 270

Gly Met Ala Val Ala Gln Phe Leu Glu Ser Asn Pro Trp Val Glu Lys
 275 280 285

Val Ile Tyr Pro Gly Leu Pro Ser His Pro Gln His Glu Leu Val Lys
 290 295 300

Arg Gln Cys Thr Gly Cys Gly Gly Met Val Thr Phe Tyr Ile Lys Gly
 305 310 315 320

Thr Leu Gln His Ala Glu Ile Phe Leu Lys Asn Leu Lys Leu Phe Thr
 325 330 335

Leu Ala Val Ser Leu Gly Gly Phe Glu Ser Leu Ala Glu Leu Pro Ala
 340 345 350

Ser Met Thr His Ala Ser Val Leu Lys Asn Asp Arg Asp Val Leu Gly
 355 360 365

Ile Ser Asp Thr Leu Ile Arg Leu Ser Val Gly Leu Glu Asp Glu Glu
 370 375 380

Asp Leu Leu Glu Asp Leu Asp Gln Ala Leu Lys Ala Ala His Pro Pro
 385 390 395 400

Ser Gly Ser His Ser
 405

<210> 38
 <211> 405
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic polypeptide

<400> 38

Met Gln Glu Lys Asp Ala Ser Ser Gln Gly Phe Leu Pro His Phe Gln
 1 5 10 15

His Phe Ala Thr Gln Ala Ile His Val Gly Gln Asp Pro Glu Gln Trp
 20 25 30

Thr Ser Arg Ala Val Val Pro Pro Ile Ser Leu Ser Thr Thr Phe Lys
 35 40 45

Gln Gly Ala Pro Gly Gln His Ser Gly Phe Ile Tyr Ser Arg Leu Gly
 50 55 60

Asn Pro Thr Arg Asn Cys Leu Glu Lys Ala Val Ala Ala Leu Asp Gly
 65 70 75 80

Ala Lys Tyr Cys Leu Ala Phe Ala Ser Gly Met Ala Ala Thr Val Thr
 85 90 95

Ile Thr His Leu Leu Lys Ala Gly Asp Gln Ile Ile Cys Met Asp Asp
 100 105 110

Val Tyr Gly Gly Thr Asn His Tyr Phe Arg Gln Val Ala Ser Glu Phe
 115 120 125

Gly Leu Lys Ile Ser Phe Val Asp Cys Ser Lys Ile Lys Leu Leu Glu
 130 135 140

Ala Ala Ile Thr Pro Glu Thr Lys Leu Val Trp Ile Glu Thr Pro Thr
 145 150 155 160

Asn Pro Thr Gln Lys Val Ile Asp Ile Glu Gly Cys Ala His Ile Val
 165 170 175

His Lys His Gly Asp Ile Ile Leu Val Val Asp Asn Thr Phe Met Ser
 180 185 190

Pro Tyr Phe Gln Arg Pro Leu Ala Leu Gly Ala Asp Ile Ser Met Tyr
 195 200 205

Ser Ala Thr Lys Tyr Met Asn Gly His Ser Asp Val Val Met Gly Leu
 210 215 220

Val Ser Val Asn Cys Glu Ser Leu His Asn Arg Leu Arg Phe Leu Gln
 225 230 235 240

Asn Ser Leu Gly Ala Val Pro Ser Pro Ile Asp Cys Tyr Leu Cys Asn
 245 250 255

Arg Gly Leu Lys Thr Leu His Val Arg Met Glu Arg His Phe Lys Asn
 260 265 270

Gly Met Ala Val Ala Gln Phe Leu Glu Ser Asn Pro Trp Val Glu Lys
 275 280 285

Val Ile Tyr Pro Gly Leu Pro Ser His Pro Gln His Glu Leu Val Lys
 290 295 300

Arg Gln Cys Thr Gly Cys Gly Gly Met Val Thr Phe Tyr Ile Lys Gly
 305 310 315 320

89
Thr Leu Gln His Ala Glu Ile Phe Leu Lys Asn Leu Lys Leu Phe Thr
325 330 335

Leu Ala Val Ser Leu Gly Gly Phe Glu Ser Leu Ala Glu Leu Pro Ala
340 345 350

Ser Met Thr His Ala Ser Val Leu Lys Asn Asp Arg Asp Val Leu Gly
355 360 365

Ile Ser Asp Thr Leu Ile Arg Leu Ser Val Gly Leu Glu Asp Glu Glu
370 375 380

Asp Leu Leu Glu Asp Leu Asp Gln Ala Leu Lys Ala Ala His Pro Pro
385 390 395 400

Ser Gly Ser His Ser
405

<210> 39

<211> 405

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic polypeptide

<400> 39

Met Gln Glu Lys Asp Ala Ser Ser Gln Gly Phe Leu Pro His Phe Gln
1 5 10 15

His Phe Ala Thr Gln Ala Ile His Val Gly Gln Asp Pro Glu Gln Trp
20 25 30

Thr Ser Arg Ala Val Val Pro Pro Ile Ser Leu Ser Thr Thr Phe Lys
35 40 45

Gln Gly Ala Pro Gly Gln His Ser Gly Phe Ile Tyr Ser Arg Leu Gly
50 55 60

Asn Pro Thr Arg Asn Cys Leu Glu Lys Ala Val Ala Ala Leu Asp Gly
65 70 75 80

Ala Lys Tyr Cys Leu Ala Phe Ala Ser Gly Met Ala Ala Thr Val Thr
85 90 95

Ile Thr His Leu Leu Lys Ala Gly Asp Gln Ile Ile Cys Met Asp Asp
100 105 110

Val Tyr Gly Gly Thr Asn Gly Tyr Phe Arg Gln Val Ala Ser Glu Phe
115 120 125

Gly Leu Lys Ile Ser Phe Val Asp Cys Ser Lys Ile Lys Leu Leu Glu
130 135 140

Ala Ala Ile Thr Pro Glu Thr Lys Leu Val Trp Ile Glu Thr Pro Thr
145 150 155 160

Asn Pro Thr Gln Lys Val Ile Asp Ile Glu Gly Cys Ala His Ile Val
165 170 175

His Lys His Gly Asp Ile Ile Leu Val Val Asp Asn Thr Phe Met Ser
180 185 190

Pro Tyr Phe Gln Arg Pro Leu Ala Leu Gly Ala Asp Ile Ser Met Tyr
195 200 205

Ser Ala Thr Lys Tyr Met Asn Gly His Ser Asp Val Val Met Gly Leu
210 215 220

Val Ser Val Asn Cys Glu Ser Leu His Asn Arg Leu Arg Phe Leu Gln
225 230 235 240

Asn Ser Leu Gly Ala Val Pro Ser Pro Ile Asp Cys Tyr Leu Cys Asn
245 250 255

91
Arg Gly Leu Lys Thr Leu His Val Arg Met Glu Arg His Phe Lys Asn
260 265 270

Gly Met Ala Val Ala Gln Phe Leu Glu Ser Asn Pro Trp Val Glu Lys
275 280 285

Val Ile Tyr Pro Gly Leu Pro Ser His Pro Gln His Glu Leu Val Lys
290 295 300

Arg Gln Cys Thr Gly Cys Gly Gly Met Val Thr Phe Tyr Ile Lys Gly
305 310 315 320

Thr Leu Gln His Ala Glu Ile Phe Leu Lys Asn Leu Lys Leu Phe Thr
325 330 335

Leu Ala Val Ser Leu Gly Gly Phe Glu Ser Leu Ala Glu Leu Pro Ala
340 345 350

Ser Met Thr His Ala Ser Val Leu Lys Asn Asp Arg Asp Val Leu Gly
355 360 365

Ile Ser Asp Thr Leu Ile Arg Leu Ser Val Gly Leu Glu Asp Glu Glu
370 375 380

Asp Leu Leu Glu Asp Leu Asp Gln Ala Leu Lys Ala Ala His Pro Pro
385 390 395 400

Ser Gly Ser His Ser
405

<210> 40
<211> 405
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic polypeptide

<400> 40

Met Gln Glu Lys Glu Ala Ser Ser Gln Gly Phe Leu Pro His Phe Gln
 1 5 10 15

His Phe Ala Thr Gln Ala Ile His Val Gly Gln Glu Pro Glu Gln Trp
 20 25 30

Thr Ser Arg Ala Val Val Pro Pro Ile Ser Pro Ser Val Thr Phe Lys
 35 40 45

Gln Gly Ala Pro Gly Gln His Ser Gly Phe Ile Tyr Ser Arg Leu Gly
 50 55 60

Asn Pro Thr Arg Asn Cys Leu Glu Lys Ala Val Ala Ala Leu Asp Gly
 65 70 75 80

Ala Lys Tyr Cys Leu Ala Phe Ala Ser Gly Met Ala Ala Thr Val Thr
 85 90 95

Ile Thr His Leu Leu Lys Ala Gly Asp Gln Ile Ile Cys Met Asp Asp
 100 105 110

Val Tyr Ala Gly Thr Asn Asp Tyr Phe Arg Gln Val Ala Ser Glu Phe
 115 120 125

Gly Leu Lys Ile Ser Phe Val Asp Cys Ser Lys Ile Lys Leu Leu Glu
 130 135 140

Ala Ala Ile Thr Pro Glu Thr Lys Leu Val Trp Ile Glu Thr Pro Thr
 145 150 155 160

Asn Pro Thr Gln Lys Met Thr Asp Ile Glu Ala Cys Ala His Ile Val
 165 170 175

His Lys His Gly Asp Ile Ile Leu Val Val Asp Asn Thr Phe Met Ser
 180 185 190

Pro Tyr Phe Gln Arg Pro Leu Ala Leu Gly Ala Asp Ile Cys Met Cys
195 200 205 93

Ser Ala Thr Lys Tyr Met Asn Gly His Ser Asp Val Val Met Gly Leu
210 215 220

Val Ser Val Asn Cys Glu Ser Leu Tyr Asn Arg Leu Arg Phe Leu Gln
225 230 235 240

Asn Ser Leu Gly Ala Val Pro Ser Pro Ile Asp Cys Tyr Leu Cys Asn
245 250 255

Arg Gly Leu Lys Thr Leu Gln Val Arg Met Glu Arg His Phe Lys Asn
260 265 270

Gly Met Ala Val Ala Gln Phe Leu Glu Ser Asn Pro Trp Val Glu Lys
275 280 285

Val Ile Tyr Pro Gly Leu Pro Ser His Pro Gln His Glu Leu Val Lys
290 295 300

Arg Gln Cys Thr Gly Cys Gly Gly Met Val Thr Phe Tyr Ile Lys Gly
305 310 315 320

Thr Leu Gln His Ala Glu Ile Phe Leu Lys Asn Leu Lys Leu Phe Thr
325 330 335

Leu Ala Val Ser Leu Gly Gly Phe Glu Ser Leu Val Glu Leu Pro Ala
340 345 350

Ser Met Thr His Ala Ser Val Leu Lys Lys Asp Arg Asp Val Leu Gly
355 360 365

Ile Ser Asp Thr Leu Ile Arg Leu Ser Val Gly Leu Glu Asp Glu Glu
370 375 380

Asp Leu Leu Glu Asp Leu Asp Gln Ala Leu Lys Ala Ala His Pro Pro

385 390 94 395 400

Ser Gly Ser His Ser
405

<210> 41
<211> 405
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic polypeptide

<400> 41

Met Gln Glu Lys Glu Ala Ser Ser Gln Gly Phe Leu Pro His Phe Gln
1 5 10 15

His Phe Ala Thr Gln Ala Ile His Val Gly Gln Glu Pro Glu Gln Trp
20 25 30

Thr Ser Arg Ala Val Val Pro Pro Ile Ser Pro Ser Val Thr Phe Lys
35 40 45

Gln Gly Ala Pro Gly Gln His Ser Gly Phe Ile Tyr Ser Arg Leu Gly
50 55 60

Asn Pro Thr Arg Asn Cys Leu Glu Lys Ala Val Ala Ala Leu Asp Gly
65 70 75 80

Ala Lys Tyr Cys Leu Ala Phe Ala Ser Gly Met Ala Ala Thr Val Thr
85 90 95

Ile Thr His Leu Leu Lys Ala Gly Asp Gln Ile Ile Cys Met Asp Asp
100 105 110

Val Tyr Ala Gly Thr Asn His Tyr Phe Arg Gln Val Ala Ser Glu Phe
115 120 125

Gly Leu Lys Ile Ser Phe Val Asp Cys Ser Lys Ile Lys Leu Leu Glu
130 135 95 140

Ala Ala Ile Thr Pro Glu Thr Lys Leu Val Trp Ile Glu Thr Pro Thr
145 150 155 160

Asn Pro Thr Gln Lys Met Thr Asp Ile Glu Ala Cys Ala His Ile Val
165 170 175

His Lys His Gly Asp Ile Ile Leu Val Val Asp Asn Thr Phe Met Ser
180 185 190

Pro Tyr Phe Gln Arg Pro Leu Ala Leu Gly Ala Asp Ile Cys Met Cys
195 200 205

Ser Ala Thr Lys Tyr Met Asn Gly His Ser Asp Val Val Met Gly Leu
210 215 220

Val Ser Val Asn Cys Glu Ser Leu Tyr Asn Arg Leu Arg Phe Leu Gln
225 230 235 240

Asn Ser Leu Gly Ala Val Pro Ser Pro Ile Asp Cys Tyr Leu Cys Asn
245 250 255

Arg Gly Leu Lys Thr Leu Gln Val Arg Met Glu Arg His Phe Lys Asn
260 265 270

Gly Met Ala Val Ala Gln Phe Leu Glu Ser Asn Pro Trp Val Glu Lys
275 280 285

Val Ile Tyr Pro Gly Leu Pro Ser His Pro Gln His Glu Leu Val Lys
290 295 300

Arg Gln Cys Thr Gly Cys Gly Gly Met Val Thr Phe Tyr Ile Lys Gly
305 310 315 320

Thr Leu Gln His Ala Glu Ile Phe Leu Lys Asn Leu Lys Leu Phe Thr

325

330

335

Leu Ala Val Ser Leu Gly Gly Phe Glu Ser Leu Val Glu Leu Pro Ala
 340 345 350

Ser Met Thr His Ala Ser Val Leu Lys Lys Asp Arg Asp Val Leu Gly
 355 360 365

Ile Ser Asp Thr Leu Ile Arg Leu Ser Val Gly Leu Glu Asp Glu Glu
 370 375 380

Asp Leu Leu Glu Asp Leu Asp Gln Ala Leu Lys Ala Ala His Pro Pro
 385 390 395 400

Ser Gly Ser His Ser
 405

<210> 42

<211> 405

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic polypeptide

<400> 42

Met Gln Glu Lys Glu Ala Ser Ser Gln Gly Phe Leu Pro His Phe Gln
 1 5 10 15

His Phe Ala Thr Gln Ala Ile His Val Gly Gln Glu Pro Glu Gln Trp
 20 25 30

Thr Ser Arg Ala Val Val Pro Pro Ile Ser Pro Ser Val Thr Phe Lys
 35 40 45

Gln Gly Ala Pro Gly Gln His Ser Gly Phe Ile Tyr Ser Arg Leu Gly
 50 55 60

Asn Pro Thr Arg Asn Cys Leu Glu Lys Ala Val Ala Ala Leu Asp Gly
65 70 75 80 97

Ala Lys Tyr Cys Leu Ala Phe Ala Ser Gly Met Ala Ala Thr Val Thr
85 90 95

Ile Thr His Leu Leu Lys Ala Gly Asp Gln Ile Ile Cys Met Asp Asp
100 105 110

Val Tyr Ala Gly Thr Asn Gly Tyr Phe Arg Gln Val Ala Ser Glu Phe
115 120 125

Gly Leu Lys Ile Ser Phe Val Asp Cys Ser Lys Ile Lys Leu Leu Glu
130 135 140

Ala Ala Ile Thr Pro Glu Thr Lys Leu Val Trp Ile Glu Thr Pro Thr
145 150 155 160

Asn Pro Thr Gln Lys Met Thr Asp Ile Glu Ala Cys Ala His Ile Val
165 170 175

His Lys His Gly Asp Ile Ile Leu Val Val Asp Asn Thr Phe Met Ser
180 185 190

Pro Tyr Phe Gln Arg Pro Leu Ala Leu Gly Ala Asp Ile Cys Met Cys
195 200 205

Ser Ala Thr Lys Tyr Met Asn Gly His Ser Asp Val Val Met Gly Leu
210 215 220

Val Ser Val Asn Cys Glu Ser Leu Tyr Asn Arg Leu Arg Phe Leu Gln
225 230 235 240

Asn Ser Leu Gly Ala Val Pro Ser Pro Ile Asp Cys Tyr Leu Cys Asn
245 250 255

Arg Gly Leu Lys Thr Leu Gln Val Arg Met Glu Arg His Phe Lys Asn

260

265

270

Gly Met Ala Val Ala Gln Phe Leu Glu Ser Asn Pro Trp Val Glu Lys
 275 280 285

Val Ile Tyr Pro Gly Leu Pro Ser His Pro Gln His Glu Leu Val Lys
 290 295 300

Arg Gln Cys Thr Gly Cys Gly Gly Met Val Thr Phe Tyr Ile Lys Gly
 305 310 315 320

Thr Leu Gln His Ala Glu Ile Phe Leu Lys Asn Leu Lys Leu Phe Thr
 325 330 335

Leu Ala Val Ser Leu Gly Gly Phe Glu Ser Leu Val Glu Leu Pro Ala
 340 345 350

Ser Met Thr His Ala Ser Val Leu Lys Lys Asp Arg Asp Val Leu Gly
 355 360 365

Ile Ser Asp Thr Leu Ile Arg Leu Ser Val Gly Leu Glu Asp Glu Glu
 370 375 380

Asp Leu Leu Glu Asp Leu Asp Gln Ala Leu Lys Ala Ala His Pro Pro
 385 390 395 400

Ser Gly Ser His Ser
 405

<210> 43

<211> 405

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic polypeptide

<400> 43

99

Met	Gln	Glu	Lys	Asp	Ala	Ser	Ser	Gln	Gly	Phe	Leu	Pro	His	Phe	Gln
1				5					10					15	
His	Phe	Ala	Thr	Gln	Ala	Ile	His	Val	Gly	Gln	Glu	Pro	Glu	Gln	Trp
			20					25					30		
Thr	Ser	Arg	Ala	Val	Val	Pro	Leu	Ile	Ser	Leu	Ser	Thr	Thr	Phe	Lys
		35					40					45			
Gln	Ala	Ala	Pro	Gly	Gln	His	Ser	Gly	Phe	Ile	Tyr	Ser	Arg	Leu	Gly
	50					55					60				
Asn	Pro	Thr	Arg	Asn	Cys	Leu	Glu	Lys	Ala	Val	Ala	Ala	Leu	Asp	Gly
65					70					75					80
Ala	Lys	Tyr	Cys	Leu	Ala	Phe	Ala	Ser	Gly	Met	Ala	Ala	Thr	Val	Thr
				85					90					95	
Ile	Thr	His	Leu	Leu	Lys	Ala	Gly	Asp	Gln	Ile	Ile	Cys	Met	Asp	Asp
			100					105					110		
Val	Tyr	Gly	Gly	Thr	Asn	Asp	Tyr	Phe	Arg	Gln	Val	Ala	Ser	Glu	Phe
		115					120					125			
Gly	Leu	Lys	Ile	Ser	Phe	Val	Asp	Cys	Ser	Lys	Ile	Lys	Leu	Leu	Glu
	130					135					140				
Ala	Ala	Ile	Thr	Pro	Glu	Thr	Lys	Leu	Val	Trp	Ile	Glu	Thr	Pro	Thr
145					150					155					160
Asn	Pro	Val	Leu	Lys	Met	Ile	Asp	Ile	Glu	Ala	Cys	Ala	His	Ile	Val
				165					170					175	
His	Lys	Arg	Gly	Asp	Ile	Ile	Leu	Val	Val	Asp	Asn	Thr	Phe	Met	Ser
			180				185						190		
Pro	Tyr	Phe	Gln	Arg	Pro	Leu	Ala	Leu	Gly	Ala	Asp	Ile	Cys	Met	Cys

	195					200				100			205			
Ser	Ala 210	Thr	Lys	Tyr	Met	Asn 215	Gly	His	Ser	Asp	Val 220	Val	Met	Gly	Leu	
Val 225	Ser	Val	Asn	Cys	Glu 230	Arg	Leu	His	Asn	Arg 235	Leu	Arg	Phe	Leu	Glu 240	
Asn	Ser	Leu	Gly	Ala 245	Val	Pro	Ser	Pro	Leu 250	Asp	Cys	Tyr	Leu	Cys 255	Asn	
Arg	Gly	Leu	Lys 260	Thr	Leu	His	Val	Arg 265	Met	Glu	Arg	His	Phe 270	Lys	Asn	
Gly	Met	Ala 275	Val	Ala	Gln	Phe	Leu 280	Glu	Ser	Asn	Pro	Gly 285	Val	Glu	Lys	
Val	Ile 290	Tyr	Pro	Gly	Leu	Pro 295	Ser	His	Pro	Gln	His 300	Glu	Leu	Ala	Lys	
Arg 305	Gln	Cys	Thr	Gly	Cys 310	Gly	Gly	Met	Ile	Thr 315	Phe	Tyr	Ile	Lys	Gly 320	
Thr	Leu	Gln	His	Ala 325	Glu	Ile	Phe	Leu	Lys 330	Asn	Leu	Lys	Leu	Phe 335	Thr	
Leu	Ala	Val	Ser 340	Leu	Gly	Gly	Phe	Glu 345	Ser	Leu	Val	Glu	Leu 350	Pro	Ala	
Ser	Met	Thr 355	His	Ala	Ser	Val	Pro 360	Lys	Asn	Asp	Arg	Asp 365	Val	Leu	Gly	
Ile	Ser 370	Asp	Thr	Leu	Ile	Arg 375	Leu	Ser	Val	Gly	Leu 380	Glu	Asp	Glu	Lys	
Asp 385	Leu	Leu	Glu	Asp	Leu 390	Asp	Gln	Ala	Leu	Lys 395	Ala	Ala	His	Pro	Pro 400	

Ser Gly Ser His Asn
405

<210> 44
<211> 405
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic polypeptide

<400> 44

Met Gln Glu Lys Asp Ala Ser Ser Gln Gly Phe Leu Pro His Phe Gln
1 5 10 15

His Phe Ala Thr Gln Ala Ile His Val Gly Gln Glu Pro Glu Gln Trp
20 25 30

Thr Ser Arg Ala Val Val Pro Leu Ile Ser Leu Ser Thr Thr Phe Lys
35 40 45

Gln Ala Ala Pro Gly Gln His Ser Gly Phe Ile Tyr Ser Arg Leu Gly
50 55 60

Asn Pro Thr Arg Asn Cys Leu Glu Lys Ala Val Ala Ala Leu Asp Gly
65 70 75 80

Ala Lys Tyr Cys Leu Ala Phe Ala Ser Gly Met Ala Ala Thr Val Thr
85 90 95

Ile Thr His Leu Leu Lys Ala Gly Asp Gln Ile Ile Cys Met Asp Asp
100 105 110

Val Tyr Gly Gly Thr Asn His Tyr Phe Arg Gln Val Ala Ser Glu Phe
115 120 125

Gly Leu Lys Ile Ser Phe Val Asp Cys Ser Lys Ile Lys Leu Leu Glu

130					135					102					140				
Ala 145	Ala	Ile	Thr	Pro	Glu 150	Thr	Lys	Leu	Val	Trp 155	Ile	Glu	Thr	Pro	Thr 160				
Asn	Pro	Val	Leu	Lys 165	Met	Ile	Asp	Ile	Glu 170	Ala	Cys	Ala	His	Ile 175	Val				
His	Lys	Arg	Gly 180	Asp	Ile	Ile	Leu	Val 185	Val	Asp	Asn	Thr	Phe 190	Met	Ser				
Pro	Tyr	Phe 195	Gln	Arg	Pro	Leu	Ala 200	Leu	Gly	Ala	Asp	Ile 205	Cys	Met	Cys				
Ser	Ala 210	Thr	Lys	Tyr	Met	Asn 215	Gly	His	Ser	Asp	Val 220	Val	Met	Gly	Leu				
Val 225	Ser	Val	Asn	Cys	Glu 230	Arg	Leu	His	Asn	Arg 235	Leu	Arg	Phe	Leu	Gln 240				
Asn	Ser	Leu	Gly 245	Ala	Val	Pro	Ser	Pro	Leu 250	Asp	Cys	Tyr	Leu	Cys 255	Asn				
Arg	Gly	Leu	Lys 260	Thr	Leu	His	Val	Arg 265	Met	Glu	Arg	His	Phe 270	Lys	Asn				
Gly	Met	Ala 275	Val	Ala	Gln	Phe	Leu 280	Glu	Ser	Asn	Pro	Gly 285	Val	Glu	Lys				
Val 290	Ile	Tyr	Pro	Gly	Leu	Pro 295	Ser	His	Pro	Gln	His 300	Glu	Leu	Ala	Lys				
Arg 305	Gln	Cys	Thr	Gly	Cys 310	Gly	Gly	Met	Ile	Thr	Phe 315	Tyr	Ile	Lys	Gly 320				
Thr	Leu	Gln	His	Ala 325	Glu	Ile	Phe	Leu	Lys 330	Asn	Leu	Lys	Leu	Phe 335	Thr				

Leu Ala Val Ser Leu Gly Gly Phe Glu Ser Leu Val Glu Leu Pro Ala
 340 345 350

Ser Met Thr His Ala Ser Val Pro Lys Asn Asp Arg Asp Val Leu Gly
 355 360 365

Ile Ser Asp Thr Leu Ile Arg Leu Ser Val Gly Leu Glu Asp Glu Lys
 370 375 380

Asp Leu Leu Glu Asp Leu Asp Gln Ala Leu Lys Ala Ala His Pro Pro
 385 390 395 400

Ser Gly Ser His Asn
 405

<210> 45

<211> 405

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic polypeptide

<400> 45

Met Gln Glu Lys Asp Ala Ser Ser Gln Gly Phe Leu Pro His Phe Gln
 1 5 10 15

His Phe Ala Thr Gln Ala Ile His Val Gly Gln Glu Pro Glu Gln Trp
 20 25 30

Thr Ser Arg Ala Val Val Pro Leu Ile Ser Leu Ser Thr Thr Phe Lys
 35 40 45

Gln Ala Ala Pro Gly Gln His Ser Gly Phe Ile Tyr Ser Arg Leu Gly
 50 55 60

Asn Pro Thr Arg Asn Cys Leu Glu Lys Ala Val Ala Ala Leu Asp Gly

65		70		104		80
				75		
Ala	Lys	Tyr	Cys	Leu	Ala	Phe
				85		
					Ala	Phe
					90	
						Met
						Ala
						Ala
						Thr
						Val
						Thr
						95
Ile	Thr	His	Leu	Leu	Lys	Ala
						Gly
						Asp
						105
						Gln
						Ile
						Ile
						Cys
						Met
						Asp
						Asp
						110
Val	Tyr	Gly	Gly	Thr	Asn	Gly
						Tyr
						Phe
						Arg
						Gln
						Val
						Ala
						Ser
						Glu
						Phe
						115
						120
						125
Gly	Leu	Lys	Ile	Ser	Phe	Val
						Asp
						Cys
						Ser
						Lys
						Ile
						Lys
						Leu
						Leu
						Glu
						130
						135
						140
Ala	Ala	Ile	Thr	Pro	Glu	Thr
						Lys
						Leu
						Val
						Trp
						Ile
						Glu
						Thr
						Pro
						Thr
						145
						150
						155
						160
Asn	Pro	Val	Leu	Lys	Met	Ile
						Asp
						Ile
						Glu
						Ala
						Cys
						Ala
						His
						Ile
						Val
						165
						170
						175
His	Lys	Arg	Gly	Asp	Ile	Ile
						Leu
						Val
						Val
						Asp
						Asn
						Thr
						Phe
						Met
						Ser
						180
						185
						190
Pro	Tyr	Phe	Gln	Arg	Pro	Leu
						Ala
						Leu
						Gly
						Ala
						Asp
						Ile
						Cys
						Met
						Cys
						195
						200
						205
Ser	Ala	Thr	Lys	Tyr	Met	Asn
						Gly
						His
						Ser
						Asp
						Val
						Val
						Met
						Gly
						Leu
						210
						215
						220
Val	Ser	Val	Asn	Cys	Glu	Arg
						Leu
						His
						Asn
						Arg
						Leu
						Arg
						Phe
						Leu
						Gln
						225
						230
						235
						240
Asn	Ser	Leu	Gly	Ala	Val	Pro
						Ser
						Pro
						Leu
						Asp
						Cys
						Tyr
						Leu
						Cys
						Asn
						245
						250
						255
Arg	Gly	Leu	Lys	Thr	Leu	His
						Val
						Arg
						Met
						Glu
						Arg
						His
						Phe
						Lys
						Asn
						260
						265
						270

Gly Met Ala Val Ala Gln Phe Leu Glu Ser Asn Pro Gly Val Glu Lys
 275 280 285

Val Ile Tyr Pro Gly Leu Pro Ser His Pro Gln His Glu Leu Ala Lys
 290 295 300

Arg Gln Cys Thr Gly Cys Gly Gly Met Ile Thr Phe Tyr Ile Lys Gly
 305 310 315 320

Thr Leu Gln His Ala Glu Ile Phe Leu Lys Asn Leu Lys Leu Phe Thr
 325 330 335

Leu Ala Val Ser Leu Gly Gly Phe Glu Ser Leu Val Glu Leu Pro Ala
 340 345 350

Ser Met Thr His Ala Ser Val Pro Lys Asn Asp Arg Asp Val Leu Gly
 355 360 365

Ile Ser Asp Thr Leu Ile Arg Leu Ser Val Gly Leu Glu Asp Glu Lys
 370 375 380

Asp Leu Leu Glu Asp Leu Asp Gln Ala Leu Lys Ala Ala His Pro Pro
 385 390 395 400

Ser Gly Ser His Asn
 405

<210> 46

<211> 405

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic polypeptide

<400> 46

Met Gln Glu Lys Asp Ala Ser Ser Gln Gly Phe Leu Pro His Phe Gln

106
 1 5 10 15

 His Phe Ala Thr Gln Ala Ile His Val Gly Gln Asp Pro Glu Gln Trp
 20 25 30

 Thr Ser Arg Ala Leu Val Pro Pro Ile Ser Leu Ser Thr Thr Phe Lys
 35 40 45

 Gln Gly Ala Pro Gly Gln His Ser Gly Phe Ile Tyr Ser Arg Leu Gly
 50 55 60

 Asn Pro Thr Arg Asn Cys Leu Glu Lys Ala Val Ala Ala Leu Asp Gly
 65 70 75 80

 Ala Lys Tyr Cys Leu Ala Phe Ala Ser Gly Met Ala Ala Thr Val Thr
 85 90 95

 Ile Thr His Leu Leu Lys Ala Gly Asp Gln Ile Ile Cys Met Asp Asp
 100 105 110

 Val Tyr Gly Gly Thr Asn Asp Tyr Phe Arg Gln Val Ala Ser Glu Phe
 115 120 125

 Gly Leu Lys Ile Ser Phe Val Asp Cys Ser Lys Ile Lys Leu Leu Glu
 130 135 140

 Ala Ala Ile Thr Pro Glu Thr Lys Leu Val Trp Ile Glu Thr Pro Thr
 145 150 155 160

 Asn Pro Thr Gln Lys Val Ile Asp Ile Glu Ala Cys Ala His Ile Val
 165 170 175

 His Lys His Gly Asp Ile Ile Leu Val Val Asp Asn Thr Phe Met Ser
 180 185 190

 Pro Tyr Phe Gln Arg Pro Leu Ala Leu Gly Ala Asp Ile Cys Met Tyr
 195 200 205

Ser Ala Thr Lys Tyr Met Asn Gly His Ser Asp Val Val Met Gly Leu
 210 215 220

Val Ser Val Asn Cys Glu Ser Leu His Asn Arg Leu Arg Phe Leu Gln
 225 230 235 240

Asn Ser Leu Gly Ala Val Pro Ser Pro Ile Asp Cys Tyr Leu Cys Asn
 245 250 255

Arg Gly Leu Lys Thr Leu His Val Arg Met Glu Arg His Phe Lys Asn
 260 265 270

Gly Met Ala Val Ala Gln Phe Leu Glu Ser Asn Pro Trp Val Glu Lys
 275 280 285

Val Ile Tyr Pro Gly Leu Pro Ser His Pro Gln His Glu Leu Val Lys
 290 295 300

Arg Gln Cys Thr Gly Cys Gly Gly Met Val Thr Phe Tyr Ile Lys Gly
 305 310 315 320

Thr Leu Gln His Ala Glu Ile Phe Leu Lys Asn Leu Lys Leu Phe Thr
 325 330 335

Leu Ala Val Ser Leu Gly Gly Phe Glu Ser Leu Ala Glu Leu Pro Ala
 340 345 350

Ser Met Thr His Ala Ser Val Leu Lys Asn Asp Arg Asp Val Leu Gly
 355 360 365

Ile Ser Asp Thr Leu Ile Arg Leu Ser Val Gly Leu Glu Asp Glu Glu
 370 375 380

Asp Leu Leu Glu Asp Leu Asp Gln Ala Leu Lys Ala Ala His Pro Pro
 385 390 395 400

Ser Gly Ser His Ser
405

<210> 47
<211> 405
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic polypeptide

<400> 47

Met Gln Glu Lys Asp Ala Ser Ser Gln Gly Phe Leu Pro His Phe Gln
1 5 10 15

His Phe Ala Thr Gln Ala Ile His Val Gly Gln Asp Pro Glu Gln Trp
20 25 30

Thr Ser Arg Ala Leu Val Pro Pro Ile Ser Leu Ser Thr Thr Phe Lys
35 40 45

Gln Gly Ala Pro Gly Gln His Ser Gly Phe Ile Tyr Ser Arg Leu Gly
50 55 60

Asn Pro Thr Arg Asn Cys Leu Glu Lys Ala Val Ala Ala Leu Asp Gly
65 70 75 80

Ala Lys Tyr Cys Leu Ala Phe Ala Ser Gly Met Ala Ala Thr Val Thr
85 90 95

Ile Thr His Leu Leu Lys Ala Gly Asp Gln Ile Ile Cys Met Asp Asp
100 105 110

Val Tyr Gly Gly Thr Asn His Tyr Phe Arg Gln Val Ala Ser Glu Phe
115 120 125

Gly Leu Lys Ile Ser Phe Val Asp Cys Ser Lys Ile Lys Leu Leu Glu
130 135 140

Ala Ala Ile Thr Pro Glu Thr Lys Leu Val Trp Ile Glu Thr Pro Thr
 145 150 155 160

Asn Pro Thr Gln Lys Val Ile Asp Ile Glu Ala Cys Ala His Ile Val
 165 170 175

His Lys His Gly Asp Ile Ile Leu Val Val Asp Asn Thr Phe Met Ser
 180 185 190

Pro Tyr Phe Gln Arg Pro Leu Ala Leu Gly Ala Asp Ile Cys Met Tyr
 195 200 205

Ser Ala Thr Lys Tyr Met Asn Gly His Ser Asp Val Val Met Gly Leu
 210 215 220

Val Ser Val Asn Cys Glu Ser Leu His Asn Arg Leu Arg Phe Leu Gln
 225 230 235 240

Asn Ser Leu Gly Ala Val Pro Ser Pro Ile Asp Cys Tyr Leu Cys Asn
 245 250 255

Arg Gly Leu Lys Thr Leu His Val Arg Met Glu Arg His Phe Lys Asn
 260 265 270

Gly Met Ala Val Ala Gln Phe Leu Glu Ser Asn Pro Trp Val Glu Lys
 275 280 285

Val Ile Tyr Pro Gly Leu Pro Ser His Pro Gln His Glu Leu Val Lys
 290 295 300

Arg Gln Cys Thr Gly Cys Gly Gly Met Val Thr Phe Tyr Ile Lys Gly
 305 310 315 320

Thr Leu Gln His Ala Glu Ile Phe Leu Lys Asn Leu Lys Leu Phe Thr
 325 330 335

Leu Ala Val Ser Leu Gly Gly Phe Glu Ser Leu Ala Glu Leu Pro Ala
 340 345 350

Ser Met Thr His Ala Ser Val Leu Lys Asn Asp Arg Asp Val Leu Gly
 355 360 365

Ile Ser Asp Thr Leu Ile Arg Leu Ser Val Gly Leu Glu Asp Glu Glu
 370 375 380

Asp Leu Leu Glu Asp Leu Asp Gln Ala Leu Lys Ala Ala His Pro Pro
 385 390 395 400

Ser Gly Ser His Ser
 405

<210> 48

<211> 405

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic polypeptide

<400> 48

Met Gln Glu Lys Asp Ala Ser Ser Gln Gly Phe Leu Pro His Phe Gln
 1 5 10 15

His Phe Ala Thr Gln Ala Ile His Val Gly Gln Asp Pro Glu Gln Trp
 20 25 30

Thr Ser Arg Ala Leu Val Pro Pro Ile Ser Leu Ser Thr Thr Phe Lys
 35 40 45

Gln Gly Ala Pro Gly Gln His Ser Gly Phe Ile Tyr Ser Arg Leu Gly
 50 55 60

Asn Pro Thr Arg Asn Cys Leu Glu Lys Ala Val Ala Ala Leu Asp Gly
 65 70 75 80

Ala Lys Tyr Cys Leu Ala Phe Ala Ser Gly Met Ala Ala Thr Val Thr
 85 90 95

Ile Thr His Leu Leu Lys Ala Gly Asp Gln Ile Ile Cys Met Asp Asp
 100 105 110

Val Tyr Gly Gly Thr Asn Ala Tyr Phe Arg Gln Val Ala Ser Glu Phe
 115 120 125

Gly Leu Lys Ile Ser Phe Val Asp Cys Ser Lys Ile Lys Leu Leu Glu
 130 135 140

Ala Ala Ile Thr Pro Glu Thr Lys Leu Val Trp Ile Glu Thr Pro Thr
 145 150 155 160

Asn Pro Thr Gln Lys Val Ile Asp Ile Glu Ala Cys Ala His Ile Val
 165 170 175

His Lys His Gly Asp Ile Ile Leu Val Val Asp Asn Thr Phe Met Ser
 180 185 190

Pro Tyr Phe Gln Arg Pro Leu Ala Leu Gly Ala Asp Ile Cys Met Tyr
 195 200 205

Ser Ala Thr Lys Tyr Met Asn Gly His Ser Asp Val Val Met Gly Leu
 210 215 220

Val Ser Val Asn Cys Glu Ser Leu His Asn Arg Leu Arg Phe Leu Gln
 225 230 235 240

Asn Ser Leu Gly Ala Val Pro Ser Pro Ile Asp Cys Tyr Leu Cys Asn
 245 250 255

Arg Gly Leu Lys Thr Leu His Val Arg Met Glu Arg His Phe Lys Asn
 260 265 270

Gly Met Ala Val Ala Gln Phe Leu Glu Ser Asn Pro Trp Val Glu Lys
275 280 285

Val Ile Tyr Pro Gly Leu Pro Ser His Pro Gln His Glu Leu Val Lys
290 295 300

Arg Gln Cys Thr Gly Cys Gly Gly Met Val Thr Phe Tyr Ile Lys Gly
305 310 315 320

Thr Leu Gln His Ala Glu Ile Phe Leu Lys Asn Leu Lys Leu Phe Thr
325 330 335

Leu Ala Val Ser Leu Gly Gly Phe Glu Ser Leu Ala Glu Leu Pro Ala
340 345 350

Ser Met Thr His Ala Ser Val Leu Lys Asn Asp Arg Asp Val Leu Gly
355 360 365

Ile Ser Asp Thr Leu Ile Arg Leu Ser Val Gly Leu Glu Asp Glu Glu
370 375 380

Asp Leu Leu Glu Asp Leu Asp Gln Ala Leu Lys Ala Ala His Pro Pro
385 390 395 400

Ser Gly Ser His Ser
405

<210> 49

<211> 405

<212> PRT

<213> Artificial Sequence

 $\langle 220 \rangle$

<223> Synthetic polypeptide

<400> 49

Met Gln Glu Lys Asp Ala Ser Ser Gln Gly Phe Leu Pro His Phe Gln
1 5 10 15

His Phe Ala Thr Gln Ala Ile His Val Gly Gln Asp Pro Glu Gln Trp
 20 25 30

Thr Ser Lys Ala Leu Val Pro Pro Ile Ser Leu Ser Thr Thr Phe Lys
 35 40 45

Gln Gly Ala Pro Gly Gln His Ser Gly Phe Ile Tyr Ser Arg Leu Gly
 50 55 60

Asn Pro Thr Arg Asn Cys Leu Glu Lys Ala Val Ala Ala Leu Asp Gly
 65 70 75 80

Ala Lys Tyr Cys Leu Ala Phe Ala Ser Gly Met Ala Ala Thr Val Thr
 85 90 95

Ile Thr His Leu Leu Lys Ala Gly Asp Gln Ile Ile Cys Met Asp Asp
 100 105 110

Val Tyr Gly Gly Thr Asn Asp Tyr Phe Arg Gln Val Ala Ser Glu Phe
 115 120 125

Gly Leu Lys Ile Ser Phe Val Asp Cys Ser Lys Ile Lys Leu Leu Glu
 130 135 140

Ala Ala Ile Thr Pro Glu Thr Lys Leu Val Trp Ile Glu Thr Pro Thr
 145 150 155 160

Asn Pro Thr Gln Lys Val Ile Asp Ile Glu Ala Cys Ala His Ile Val
 165 170 175

His Lys His Gly Asp Ile Ile Leu Val Val Asp Asn Thr Phe Met Ser
 180 185 190

Pro Tyr Phe Gln Arg Pro Leu Ala Leu Gly Ala Asp Ile Cys Met Tyr
 195 200 205

Ser Ala Thr Lys Tyr Met Asn Gly His Ser Asp Val Val Ile Gly Leu
 210 215 220

Val Ser Val Asn Cys Glu Ser Leu His Asn Arg Leu Arg Phe Leu Gln
 225 230 235 240

Asn Ser Leu Gly Ala Val Pro Ser Pro Ile Asp Cys Tyr Leu Cys Asn
 245 250 255

Arg Gly Leu Lys Thr Leu His Val Arg Met Glu Arg His Phe Lys Asn
 260 265 270

Gly Met Ala Val Ala Gln Phe Leu Glu Ser Asn Pro Trp Val Glu Lys
 275 280 285

Val Ile Tyr Pro Gly Leu Pro Ser His Pro Gln His Glu Leu Val Lys
 290 295 300

Arg Gln Cys Thr Gly Cys Gly Gly Met Val Thr Phe Tyr Ile Lys Gly
 305 310 315 320

Thr Leu Gln His Ala Glu Ile Phe Leu Lys Asn Leu Lys Leu Phe Thr
 325 330 335

Leu Ala Val Ser Leu Gly Gly Phe Glu Ser Leu Ala Glu Leu Pro Ala
 340 345 350

Ser Met Thr His Ala Ser Val Leu Lys Asn Asp Arg Asp Val Leu Gly
 355 360 365

Ile Ser Asp Thr Leu Ile Arg Leu Ser Val Gly Leu Glu Asp Glu Glu
 370 375 380

Asp Leu Leu Glu Asp Leu Asp Gln Ala Leu Lys Ala Ala His Pro Pro
 385 390 395 400

Ser Gly Ser His Ser
405

<210> 50
<211> 405
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic polypeptide

<400> 50

Met Gln Glu Lys Asp Ala Ser Ser Gln Gly Phe Leu Pro His Phe Gln
1 5 10 15

His Phe Ala Thr Gln Ala Ile His Val Gly Gln Asp Pro Glu Gln Trp
20 25 30

Thr Ser Lys Ala Leu Val Pro Pro Ile Ser Leu Ser Thr Thr Phe Lys
35 40 45

Gln Gly Ala Pro Gly Gln His Ser Gly Phe Ile Tyr Ser Arg Leu Gly
50 55 60

Asn Pro Thr Arg Asn Cys Leu Glu Lys Ala Val Ala Ala Leu Asp Gly
65 70 75 80

Ala Lys Tyr Cys Leu Ala Phe Ala Ser Gly Met Ala Ala Thr Val Thr
85 90 95

Ile Thr His Leu Leu Lys Ala Gly Asp Gln Ile Ile Cys Met Asp Asp
100 105 110

Val Tyr Gly Gly Thr Asn His Tyr Phe Arg Gln Val Ala Ser Glu Phe
115 120 125

Gly Leu Lys Ile Ser Phe Val Asp Cys Ser Lys Ile Lys Leu Leu Glu
130 135 140

Ala Ala Ile Thr Pro Glu Thr Lys Leu Val Trp Ile Glu Thr Pro Thr
 145 150 155 160

Asn Pro Thr Gln Lys Val Ile Asp Ile Glu Ala Cys Ala His Ile Val
 165 170 175

His Lys His Gly Asp Ile Ile Leu Val Val Asp Asn Thr Phe Met Ser
 180 185 190

Pro Tyr Phe Gln Arg Pro Leu Ala Leu Gly Ala Asp Ile Cys Met Tyr
 195 200 205

Ser Ala Thr Lys Tyr Met Asn Gly His Ser Asp Val Val Ile Gly Leu
 210 215 220

Val Ser Val Asn Cys Glu Ser Leu His Asn Arg Leu Arg Phe Leu Gln
 225 230 235 240

Asn Ser Leu Gly Ala Val Pro Ser Pro Ile Asp Cys Tyr Leu Cys Asn
 245 250 255

Arg Gly Leu Lys Thr Leu His Val Arg Met Glu Arg His Phe Lys Asn
 260 265 270

Gly Met Ala Val Ala Gln Phe Leu Glu Ser Asn Pro Trp Val Glu Lys
 275 280 285

Val Ile Tyr Pro Gly Leu Pro Ser His Pro Gln His Glu Leu Val Lys
 290 295 300

Arg Gln Cys Thr Gly Cys Gly Gly Met Val Thr Phe Tyr Ile Lys Gly
 305 310 315 320

Thr Leu Gln His Ala Glu Ile Phe Leu Lys Asn Leu Lys Leu Phe Thr
 325 330 335

117
Leu Ala Val Ser Leu Gly Gly Phe Glu Ser Leu Ala Glu Leu Pro Ala
340 345 350

Ser Met Thr His Ala Ser Val Leu Lys Asn Asp Arg Asp Val Leu Gly
355 360 365

Ile Ser Asp Thr Leu Ile Arg Leu Ser Val Gly Leu Glu Asp Glu Glu
370 375 380

Asp Leu Leu Glu Asp Leu Asp Gln Ala Leu Lys Ala Ala His Pro Pro
385 390 395 400

Ser Gly Ser His Ser
405

<210> 51
<211> 405
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic polypeptide

<400> 51

Met Gln Glu Lys Asp Ala Ser Ser Gln Gly Phe Leu Pro His Phe Gln
1 5 10 15

His Phe Ala Thr Gln Ala Ile His Val Gly Gln Asp Pro Glu Gln Trp
20 25 30

Thr Ser Lys Ala Leu Val Pro Pro Ile Ser Leu Ser Thr Thr Phe Lys
35 40 45

Gln Gly Ala Pro Gly Gln His Ser Gly Phe Ile Tyr Ser Arg Leu Gly
50 55 60

Asn Pro Thr Arg Asn Cys Leu Glu Lys Ala Val Ala Ala Leu Asp Gly
65 70 75 80

Ala Lys Tyr Cys Leu Ala Phe Ala Ser Gly Met Ala Ala Thr Val Thr
 85 90 95

Ile Thr His Leu Leu Lys Ala Gly Asp Gln Ile Ile Cys Met Asp Asp
 100 105 110

Val Tyr Gly Gly Thr Asn Gly Tyr Phe Arg Gln Val Ala Ser Glu Phe
 115 120 125

Gly Leu Lys Ile Ser Phe Val Asp Cys Ser Lys Ile Lys Leu Leu Glu
 130 135 140

Ala Ala Ile Thr Pro Glu Thr Lys Leu Val Trp Ile Glu Thr Pro Thr
 145 150 155 160

Asn Pro Thr Gln Lys Val Ile Asp Ile Glu Ala Cys Ala His Ile Val
 165 170 175

His Lys His Gly Asp Ile Ile Leu Val Val Asp Asn Thr Phe Met Ser
 180 185 190

Pro Tyr Phe Gln Arg Pro Leu Ala Leu Gly Ala Asp Ile Cys Met Tyr
 195 200 205

Ser Ala Thr Lys Tyr Met Asn Gly His Ser Asp Val Val Ile Gly Leu
 210 215 220

Val Ser Val Asn Cys Glu Ser Leu His Asn Arg Leu Arg Phe Leu Gln
 225 230 235 240

Asn Ser Leu Gly Ala Val Pro Ser Pro Ile Asp Cys Tyr Leu Cys Asn
 245 250 255

Arg Gly Leu Lys Thr Leu His Val Arg Met Glu Arg His Phe Lys Asn
 260 265 270

Gly Met Ala Val Ala Gln Phe Leu Glu Ser Asn Pro Trp Val Glu Lys
275 280 285 119

Val Ile Tyr Pro Gly Leu Pro Ser His Pro Gln His Glu Leu Val Lys
290 295 300

Arg Gln Cys Thr Gly Cys Gly Gly Met Val Thr Phe Tyr Ile Lys Gly
305 310 315 320

Thr Leu Gln His Ala Glu Ile Phe Leu Lys Asn Leu Lys Leu Phe Thr
325 330 335

Leu Ala Val Ser Leu Gly Gly Phe Glu Ser Leu Ala Glu Leu Pro Ala
340 345 350

Ser Met Thr His Ala Ser Val Leu Lys Asn Asp Arg Asp Val Leu Gly
355 360 365

Ile Ser Asp Thr Leu Ile Arg Leu Ser Val Gly Leu Glu Asp Glu Glu
370 375 380

Asp Leu Leu Glu Asp Leu Asp Gln Ala Leu Lys Ala Ala His Pro Pro
385 390 395 400

Ser Gly Ser His Ser
405

<210> 52
<211> 405
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic polypeptide

<400> 52

Met Gln Glu Lys Glu Ala Ser Ser Gln Gly Phe Leu Pro His Phe Gln
1 5 10 15

120

His Phe Ala Thr Gln Ala Ile His Val Gly Gln Glu Pro Glu Gln Trp
20 25 30

Thr Ser Arg Ala Val Val Pro Pro Ile Ser Pro Ser Val Thr Phe Lys
35 40 45

Gln Gly Ala Pro Gly Gln His Ser Gly Phe Asn Tyr Ser Arg Leu Gly
50 55 60

Asn Pro Thr Arg Asn Cys Leu Glu Lys Ala Val Ala Ala Leu Asp Gly
65 70 75 80

Ala Lys Tyr Cys Leu Ala Phe Ala Ser Gly Met Ala Ala Thr Val Thr
85 90 95

Ile Thr His Leu Leu Lys Ala Gly Asp Gln Ile Ile Cys Met Asp Asp
100 105 110

Val Tyr Ala Gly Thr Asn Asp Tyr Phe Arg Gln Val Ala Ser Glu Phe
115 120 125

Gly Leu Lys Ile Ser Phe Val Asp Cys Ser Lys Ile Lys Leu Leu Glu
130 135 140

Ala Ala Ile Thr Pro Glu Thr Lys Leu Val Trp Ile Glu Thr Pro Thr
145 150 155 160

Asn Pro Thr Gln Lys Met Thr Asp Ile Glu Ala Cys Ala His Ile Val
165 170 175

His Lys His Gly Asp Ile Ile Leu Val Val Asp Asn Thr Phe Met Ser
180 185 190

Pro Tyr Phe Gln Arg Pro Leu Ala Leu Gly Ala Asp Ile Cys Met Cys
195 200 205

Ser Ala Thr Lys Tyr Met Asn Gly His Ser Asp Val Val Met Gly Leu
210 215 220 121

Val Ser Val Asn Cys Glu Ser Leu Tyr Asn Arg Leu Arg Phe Leu Gln
225 230 235 240

Asn Ser Leu Gly Ala Val Pro Ser Pro Ile Asp Cys Tyr Leu Cys Asn
245 250 255

Arg Gly Leu Lys Thr Leu Gln Val Arg Met Glu Arg His Phe Lys Asn
260 265 270

Gly Met Ala Val Ala Gln Phe Leu Glu Ser Asn Pro Trp Val Glu Lys
275 280 285

Val Ile Tyr Pro Gly Leu Pro Ser His Pro Gln His Glu Leu Val Lys
290 295 300

Arg Gln Cys Thr Gly Cys Gly Gly Met Val Thr Phe Tyr Ile Lys Gly
305 310 315 320

Thr Leu Gln His Ala Glu Ile Phe Leu Lys Asn Leu Lys Leu Phe Thr
325 330 335

Leu Ala Val Ser Leu Gly Gly Phe Glu Ser Leu Val Glu Leu Pro Ala
340 345 350

Ser Met Thr His Ala Ser Val Leu Lys Lys Asp Arg Asp Val Leu Gly
355 360 365

Ile Ser Asp Thr Leu Ile Arg Leu Ser Val Gly Leu Glu Asp Glu Glu
370 375 380

Asp Leu Leu Glu Asp Leu Asp Gln Ala Leu Lys Ala Ala His Pro Pro
385 390 395 400

Ser Gly Ser His Ser

405

<210> 53
 <211> 405
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic polypeptide

<400> 53

Met Gln Glu Lys Glu Ala Ser Ser Gln Gly Phe Leu Pro His Phe Gln
 1 5 10 15

His Phe Ala Thr Gln Ala Ile His Val Gly Gln Glu Pro Glu Gln Trp
 20 25 30

Thr Ser Arg Ala Val Val Pro Pro Ile Ser Pro Ser Val Thr Phe Lys
 35 40 45

Gln Gly Ala Pro Gly Gln His Ser Gly Phe Asn Tyr Ser Arg Leu Gly
 50 55 60

Asn Pro Thr Arg Asn Cys Leu Glu Lys Ala Val Ala Ala Leu Asp Gly
 65 70 75 80

Ala Lys Tyr Cys Leu Ala Phe Ala Ser Gly Met Ala Ala Thr Val Thr
 85 90 95

Ile Thr His Leu Leu Lys Ala Gly Asp Gln Ile Ile Cys Met Asp Asp
 100 105 110

Val Tyr Ala Gly Thr Asn His Tyr Phe Arg Gln Val Ala Ser Glu Phe
 115 120 125

Gly Leu Lys Ile Ser Phe Val Asp Cys Ser Lys Ile Lys Leu Leu Glu
 130 135 140

Ala Ala Ile Thr Pro Glu Thr Lys Leu Val Trp Ile Glu Thr Pro Thr
145 150 155 160

Asn Pro Thr Gln Lys Met Thr Asp Ile Glu Ala Cys Ala His Ile Val
165 170 175

His Lys His Gly Asp Ile Ile Leu Val Val Asp Asn Thr Phe Met Ser
180 185 190

Pro Tyr Phe Gln Arg Pro Leu Ala Leu Gly Ala Asp Ile Cys Met Cys
195 200 205

Ser Ala Thr Lys Tyr Met Asn Gly His Ser Asp Val Val Met Gly Leu
210 215 220

Val Ser Val Asn Cys Glu Ser Leu Tyr Asn Arg Leu Arg Phe Leu Gln
225 230 235 240

Asn Ser Leu Gly Ala Val Pro Ser Pro Ile Asp Cys Tyr Leu Cys Asn
245 250 255

Arg Gly Leu Lys Thr Leu Gln Val Arg Met Glu Arg His Phe Lys Asn
260 265 270

Gly Met Ala Val Ala Gln Phe Leu Glu Ser Asn Pro Trp Val Glu Lys
275 280 285

Val Ile Tyr Pro Gly Leu Pro Ser His Pro Gln His Glu Leu Val Lys
290 295 300

Arg Gln Cys Thr Gly Cys Gly Gly Met Val Thr Phe Tyr Ile Lys Gly
305 310 315 320

Thr Leu Gln His Ala Glu Ile Phe Leu Lys Asn Leu Lys Leu Phe Thr
325 330 335

Leu Ala Val Ser Leu Gly Gly Phe Glu Ser Leu Val Glu Leu Pro Ala

124

340

345

350

Ser Met Thr His Ala Ser Val Leu Lys Lys Asp Arg Asp Val Leu Gly
355 360 365

Ile Ser Asp Thr Leu Ile Arg Leu Ser Val Gly Leu Glu Asp Glu Glu
370 375 380

Asp Leu Leu Glu Asp Leu Asp Gln Ala Leu Lys Ala Ala His Pro Pro
385 390 395 400

Ser Gly Ser His Ser
405

<210> 54
<211> 405
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic polypeptide

<400> 54

Met Gln Glu Lys Glu Ala Ser Ser Gln Gly Phe Leu Pro His Phe Gln
1 5 10 15

His Phe Ala Thr Gln Ala Ile His Val Gly Gln Glu Pro Glu Gln Trp
20 25 30

Thr Ser Arg Ala Val Val Pro Pro Ile Ser Pro Ser Val Thr Phe Lys
35 40 45

Gln Gly Ala Pro Gly Gln His Ser Gly Phe Asn Tyr Ser Arg Leu Gly
50 55 60

Asn Pro Thr Arg Asn Cys Leu Glu Lys Ala Val Ala Ala Leu Asp Gly
65 70 75 80

Ala Lys Tyr Cys Leu Ala Phe Ala Ser Gly Met Ala Ala Thr Val Thr
85 90 125 95

Ile Thr His Leu Leu Lys Ala Gly Asp Gln Ile Ile Cys Met Asp Asp
100 105 110

Val Tyr Ala Gly Thr Asn Gly Tyr Phe Arg Gln Val Ala Ser Glu Phe
115 120 125

Gly Leu Lys Ile Ser Phe Val Asp Cys Ser Lys Ile Lys Leu Leu Glu
130 135 140

Ala Ala Ile Thr Pro Glu Thr Lys Leu Val Trp Ile Glu Thr Pro Thr
145 150 155 160

Asn Pro Thr Gln Lys Met Thr Asp Ile Glu Ala Cys Ala His Ile Val
165 170 175

His Lys His Gly Asp Ile Ile Leu Val Val Asp Asn Thr Phe Met Ser
180 185 190

Pro Tyr Phe Gln Arg Pro Leu Ala Leu Gly Ala Asp Ile Cys Met Cys
195 200 205

Ser Ala Thr Lys Tyr Met Asn Gly His Ser Asp Val Val Met Gly Leu
210 215 220

Val Ser Val Asn Cys Glu Ser Leu Tyr Asn Arg Leu Arg Phe Leu Gln
225 230 235 240

Asn Ser Leu Gly Ala Val Pro Ser Pro Ile Asp Cys Tyr Leu Cys Asn
245 250 255

Arg Gly Leu Lys Thr Leu Gln Val Arg Met Glu Arg His Phe Lys Asn
260 265 270

Gly Met Ala Val Ala Gln Phe Leu Glu Ser Asn Pro Trp Val Glu Lys

His Phe Ala Thr Gln Ala Ile His Val Gly Gln Glu Pro Glu Gln Trp
 20 25 30 127

Thr Ser Arg Ala Val Val Pro Leu Ile Ser Leu Ser Thr Thr Phe Lys
 35 40 45

Gln Ala Ala Pro Gly Gln His Ser Gly Phe Asn Tyr Ser Arg Leu Gly
 50 55 60

Asn Pro Thr Arg Asn Cys Leu Glu Lys Ala Val Ala Ala Leu Asp Gly
 65 70 75 80

Ala Lys Tyr Cys Leu Ala Phe Ala Ser Gly Met Ala Ala Thr Val Thr
 85 90 95

Ile Thr His Leu Leu Lys Ala Gly Asp Gln Ile Ile Cys Met Asp Asp
 100 105 110

Val Tyr Gly Gly Thr Asn Asp Tyr Phe Arg Gln Val Ala Ser Glu Phe
 115 120 125

Gly Leu Lys Ile Ser Phe Val Asp Cys Ser Lys Ile Lys Leu Leu Glu
 130 135 140

Ala Ala Ile Thr Pro Glu Thr Lys Leu Val Trp Ile Glu Thr Pro Thr
 145 150 155 160

Asn Pro Val Leu Lys Met Ile Asp Ile Glu Ala Cys Ala His Ile Val
 165 170 175

His Lys Arg Gly Asp Ile Ile Leu Val Val Asp Asn Thr Phe Met Ser
 180 185 190

Pro Tyr Phe Gln Arg Pro Leu Ala Leu Gly Ala Asp Ile Cys Met Cys
 195 200 205

Ser Ala Thr Lys Tyr Met Asn Gly His Ser Asp Val Val Met Gly Leu

[illegible]

<210> 56
 <211> 405
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic polypeptide

<400> 56

Met Gln Glu Lys Asp Ala Ser Ser Gln Gly Phe Leu Pro His Phe Gln
 1 5 10 15

His Phe Ala Thr Gln Ala Ile His Val Gly Gln Glu Pro Glu Gln Trp
 20 25 30

Thr Ser Arg Ala Val Val Pro Leu Ile Ser Leu Ser Thr Thr Phe Lys
 35 40 45

Gln Ala Ala Pro Gly Gln His Ser Gly Phe Asn Tyr Ser Arg Leu Gly
 50 55 60

Asn Pro Thr Arg Asn Cys Leu Glu Lys Ala Val Ala Ala Leu Asp Gly
 65 70 75 80

Ala Lys Tyr Cys Leu Ala Phe Ala Ser Gly Met Ala Ala Thr Val Thr
 85 90 95

Ile Thr His Leu Leu Lys Ala Gly Asp Gln Ile Ile Cys Met Asp Asp
 100 105 110

Val Tyr Gly Gly Thr Asn His Tyr Phe Arg Gln Val Ala Ser Glu Phe
 115 120 125

Gly Leu Lys Ile Ser Phe Val Asp Cys Ser Lys Ile Lys Leu Leu Glu
 130 135 140

Ala Ala Ile Thr Pro Glu Thr Lys Leu Val Trp Ile Glu Thr Pro Thr

145		150		130		155		160							
Asn	Pro	Val	Leu	Lys	Met	Ile	Asp	Ile	Glu	Ala	Cys	Ala	His	Ile	Val
			165						170					175	
His	Lys	Arg	Gly	Asp	Ile	Ile	Leu	Val	Val	Asp	Asn	Thr	Phe	Met	Ser
			180					185					190		
Pro	Tyr	Phe	Gln	Arg	Pro	Leu	Ala	Leu	Gly	Ala	Asp	Ile	Cys	Met	Cys
		195					200					205			
Ser	Ala	Thr	Lys	Tyr	Met	Asn	Gly	His	Ser	Asp	Val	Val	Met	Gly	Leu
	210					215					220				
Val	Ser	Val	Asn	Cys	Glu	Arg	Leu	His	Asn	Arg	Leu	Arg	Phe	Leu	Gln
225					230					235					240
Asn	Ser	Leu	Gly	Ala	Val	Pro	Ser	Pro	Leu	Asp	Cys	Tyr	Leu	Cys	Asn
			245						250					255	
Arg	Gly	Leu	Lys	Thr	Leu	His	Val	Arg	Met	Glu	Arg	His	Phe	Lys	Asn
		260						265					270		
Gly	Met	Ala	Val	Ala	Gln	Phe	Leu	Glu	Ser	Asn	Pro	Gly	Val	Glu	Lys
		275					280					285			
Val	Ile	Tyr	Pro	Gly	Leu	Pro	Ser	His	Pro	Gln	His	Glu	Leu	Ala	Lys
	290					295					300				
Arg	Gln	Cys	Thr	Gly	Cys	Gly	Gly	Met	Ile	Thr	Phe	Tyr	Ile	Lys	Gly
305					310					315					320
Thr	Leu	Gln	His	Ala	Glu	Ile	Phe	Leu	Lys	Asn	Leu	Lys	Leu	Phe	Thr
			325						330					335	
Leu	Ala	Val	Ser	Leu	Gly	Gly	Phe	Glu	Ser	Leu	Val	Glu	Leu	Pro	Ala
			340					345					350		

Ser Met Thr His Ala Ser Val Pro Lys Asn Asp Arg Asp Val Leu Gly
 355 360 365

Ile Ser Asp Thr Leu Ile Arg Leu Ser Val Gly Leu Glu Asp Glu Lys
 370 375 380

Asp Leu Leu Glu Asp Leu Asp Gln Ala Leu Lys Ala Ala His Pro Pro
 385 390 395 400

Ser Gly Ser His Asn
 405

<210> 57
 <211> 405
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic polypeptide

<400> 57

Met Gln Glu Lys Asp Ala Ser Ser Gln Gly Phe Leu Pro His Phe Gln
 1 5 10 15

His Phe Ala Thr Gln Ala Ile His Val Gly Gln Glu Pro Glu Gln Trp
 20 25 30

Thr Ser Arg Ala Val Val Pro Leu Ile Ser Leu Ser Thr Thr Phe Lys
 35 40 45

Gln Ala Ala Pro Gly Gln His Ser Gly Phe Asn Tyr Ser Arg Leu Gly
 50 55 60

Asn Pro Thr Arg Asn Cys Leu Glu Lys Ala Val Ala Ala Leu Asp Gly
 65 70 75 80

Ala Lys Tyr Cys Leu Ala Phe Ala Ser Gly Met Ala Ala Thr Val Thr

132																
85				90								95				
Ile	Thr	His	Leu	Leu	Lys	Ala	Gly	Asp	Gln	Ile	Ile	Cys	Met	Asp	Asp	
			100				105						110			
Val	Tyr	Gly	Gly	Thr	Asn	Ala	Tyr	Phe	Arg	Gln	Val	Ala	Ser	Glu	Phe	
		115					120					125				
Gly	Leu	Lys	Ile	Ser	Phe	Val	Asp	Cys	Ser	Lys	Ile	Lys	Leu	Leu	Glu	
		130				135						140				
Ala	Ala	Ile	Thr	Pro	Glu	Thr	Lys	Leu	Val	Trp	Ile	Glu	Thr	Pro	Thr	
145					150					155						160
Asn	Pro	Val	Leu	Lys	Met	Ile	Asp	Ile	Glu	Ala	Cys	Ala	His	Ile	Val	
			165				170						175			
His	Lys	Arg	Gly	Asp	Ile	Ile	Leu	Val	Val	Asp	Asn	Thr	Phe	Met	Ser	
		180				185						190				
Pro	Tyr	Phe	Gln	Arg	Pro	Leu	Ala	Leu	Gly	Ala	Asp	Ile	Cys	Met	Cys	
		195					200					205				
Ser	Ala	Thr	Lys	Tyr	Met	Asn	Gly	His	Ser	Asp	Val	Val	Met	Gly	Leu	
		210				215						220				
Val	Ser	Val	Asn	Cys	Glu	Arg	Leu	His	Asn	Arg	Leu	Arg	Phe	Leu	Gln	
225					230					235					240	
Asn	Ser	Leu	Gly	Ala	Val	Pro	Ser	Pro	Leu	Asp	Cys	Tyr	Leu	Cys	Asn	
			245				250						255			
Arg	Gly	Leu	Lys	Thr	Leu	His	Val	Arg	Met	Glu	Arg	His	Phe	Lys	Asn	
		260				265						270				
Gly	Met	Ala	Val	Ala	Gln	Phe	Leu	Glu	Ser	Asn	Pro	Gly	Val	Glu	Lys	
		275				280						285				

Val Ile Tyr Pro Gly Leu Pro Ser His Pro Gln His Glu Leu Ala Lys
 290 295 300

Arg Gln Cys Thr Gly Cys Gly Gly Met Ile Thr Phe Tyr Ile Lys Gly
 305 310 315 320

Thr Leu Gln His Ala Glu Ile Phe Leu Lys Asn Leu Lys Leu Phe Thr
 325 330 335

Leu Ala Val Ser Leu Gly Gly Phe Glu Ser Leu Val Glu Leu Pro Ala
 340 345 350

Ser Met Thr His Ala Ser Val Pro Lys Asn Asp Arg Asp Val Leu Gly
 355 360 365

Ile Ser Asp Thr Leu Ile Arg Leu Ser Val Gly Leu Glu Asp Glu Lys
 370 375 380

Asp Leu Leu Glu Asp Leu Asp Gln Ala Leu Lys Ala Ala His Pro Pro
 385 390 395 400

Ser Gly Ser His Asn
 405

<210> 58

<211> 405

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic polypeptide

<400> 58

Met Gln Glu Lys Asp Ala Ser Ser Gln Gly Phe Leu Pro His Phe Gln
 1 5 10 15

His Phe Ala Thr Gln Ala Ile His Val Gly Gln Asp Pro Glu Gln Trp

134

20

25

30

Thr Ser Arg Ala Leu Val Pro Pro Ile Ser Leu Ser Thr Thr Phe Lys
 35 40 45

Gln Gly Ala Pro Gly Gln His Ser Gly Phe Asn Tyr Ser Arg Leu Gly
 50 55 60

Asn Pro Thr Arg Asn Cys Leu Glu Lys Ala Val Ala Ala Leu Asp Gly
 65 70 75 80

Ala Lys Tyr Cys Leu Ala Phe Ala Ser Gly Met Ala Ala Thr Val Thr
 85 90 95

Ile Thr His Leu Leu Lys Ala Gly Asp Gln Ile Ile Cys Met Asp Asp
 100 105 110

Val Tyr Gly Gly Thr Asn Asp Tyr Phe Arg Gln Val Ala Ser Glu Phe
 115 120 125

Gly Leu Lys Ile Ser Phe Val Asp Cys Ser Lys Ile Lys Leu Leu Glu
 130 135 140

Ala Ala Ile Thr Pro Glu Thr Lys Leu Val Trp Ile Glu Thr Pro Thr
 145 150 155 160

Asn Pro Thr Gln Lys Val Ile Asp Ile Glu Ala Cys Ala His Ile Val
 165 170 175

His Lys His Gly Asp Ile Ile Leu Val Val Asp Asn Thr Phe Met Ser
 180 185 190

Pro Tyr Phe Gln Arg Pro Leu Ala Leu Gly Ala Asp Ile Cys Met Tyr
 195 200 205

Ser Ala Thr Lys Tyr Met Asn Gly His Ser Asp Val Val Met Gly Leu
 210 215 220

Val Ser Val Asn Cys Glu Ser Leu His Asn Arg Leu Arg Phe Leu Gln
 225 230 235 240

Asn Ser Leu Gly Ala Val Pro Ser Pro Ile Asp Cys Tyr Leu Cys Asn
 245 250 255

Arg Gly Leu Lys Thr Leu His Val Arg Met Glu Arg His Phe Lys Asn
 260 265 270

Gly Met Ala Val Ala Gln Phe Leu Glu Ser Asn Pro Trp Val Glu Lys
 275 280 285

Val Ile Tyr Pro Gly Leu Pro Ser His Pro Gln His Glu Leu Val Lys
 290 295 300

Arg Gln Cys Thr Gly Cys Gly Gly Met Val Thr Phe Tyr Ile Lys Gly
 305 310 315 320

Thr Leu Gln His Ala Glu Ile Phe Leu Lys Asn Leu Lys Leu Phe Thr
 325 330 335

Leu Ala Val Ser Leu Gly Gly Phe Glu Ser Leu Ala Glu Leu Pro Ala
 340 345 350

Ser Met Thr His Ala Ser Val Leu Lys Asn Asp Arg Asp Val Leu Gly
 355 360 365

Ile Ser Asp Thr Leu Ile Arg Leu Ser Val Gly Leu Glu Asp Glu Glu
 370 375 380

Asp Leu Leu Glu Asp Leu Asp Gln Ala Leu Lys Ala Ala His Pro Pro
 385 390 395 400

Ser Gly Ser His Ser
 405

<210> 59
 <211> 405
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic polypeptide

<400> 59

Met Gln Glu Lys Asp Ala Ser Ser Gln Gly Phe Leu Pro His Phe Gln
 1 5 10 15

His Phe Ala Thr Gln Ala Ile His Val Gly Gln Asp Pro Glu Gln Trp
 20 25 30

Thr Ser Arg Ala Leu Val Pro Pro Ile Ser Leu Ser Thr Thr Phe Lys
 35 40 45

Gln Gly Ala Pro Gly Gln His Ser Gly Phe Asn Tyr Ser Arg Leu Gly
 50 55 60

Asn Pro Thr Arg Asn Cys Leu Glu Lys Ala Val Ala Ala Leu Asp Gly
 65 70 75 80

Ala Lys Tyr Cys Leu Ala Phe Ala Ser Gly Met Ala Ala Thr Val Thr
 85 90 95

Ile Thr His Leu Leu Lys Ala Gly Asp Gln Ile Ile Cys Met Asp Asp
 100 105 110

Val Tyr Gly Gly Thr Asn His Tyr Phe Arg Gln Val Ala Ser Glu Phe
 115 120 125

Gly Leu Lys Ile Ser Phe Val Asp Cys Ser Lys Ile Lys Leu Leu Glu
 130 135 140

Ala Ala Ile Thr Pro Glu Thr Lys Leu Val Trp Ile Glu Thr Pro Thr
 145 150 155 160

Asn Pro Thr Gln Lys Val Ile Asp Ile Glu Ala Cys Ala His Ile Val
 165 170 175

His Lys His Gly Asp Ile Ile Leu Val Val Asp Asn Thr Phe Met Ser
 180 185 190

Pro Tyr Phe Gln Arg Pro Leu Ala Leu Gly Ala Asp Ile Cys Met Tyr
 195 200 205

Ser Ala Thr Lys Tyr Met Asn Gly His Ser Asp Val Val Met Gly Leu
 210 215 220

Val Ser Val Asn Cys Glu Ser Leu His Asn Arg Leu Arg Phe Leu Gln
 225 230 235 240

Asn Ser Leu Gly Ala Val Pro Ser Pro Ile Asp Cys Tyr Leu Cys Asn
 245 250 255

Arg Gly Leu Lys Thr Leu His Val Arg Met Glu Arg His Phe Lys Asn
 260 265 270

Gly Met Ala Val Ala Gln Phe Leu Glu Ser Asn Pro Trp Val Glu Lys
 275 280 285

Val Ile Tyr Pro Gly Leu Pro Ser His Pro Gln His Glu Leu Val Lys
 290 295 300

Arg Gln Cys Thr Gly Cys Gly Gly Met Val Thr Phe Tyr Ile Lys Gly
 305 310 315 320

Thr Leu Gln His Ala Glu Ile Phe Leu Lys Asn Leu Lys Leu Phe Thr
 325 330 335

Leu Ala Val Ser Leu Gly Gly Phe Glu Ser Leu Ala Glu Leu Pro Ala
 340 345 350

Ser Met Thr His Ala Ser Val Leu Lys Asn Asp Arg Asp Val Leu Gly
 355 360 365

Ile Ser Asp Thr Leu Ile Arg Leu Ser Val Gly Leu Glu Asp Glu Glu
 370 375 380

Asp Leu Leu Glu Asp Leu Asp Gln Ala Leu Lys Ala Ala His Pro Pro
 385 390 395 400

Ser Gly Ser His Ser
 405

<210> 60
 <211> 405
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic polypeptide

<400> 60

Met Gln Glu Lys Asp Ala Ser Ser Gln Gly Phe Leu Pro His Phe Gln
 1 5 10 15

His Phe Ala Thr Gln Ala Ile His Val Gly Gln Asp Pro Glu Gln Trp
 20 25 30

Thr Ser Arg Ala Leu Val Pro Pro Ile Ser Leu Ser Thr Thr Phe Lys
 35 40 45

Gln Gly Ala Pro Gly Gln His Ser Gly Phe Asn Tyr Ser Arg Leu Gly
 50 55 60

Asn Pro Thr Arg Asn Cys Leu Glu Lys Ala Val Ala Ala Leu Asp Gly
 65 70 75 80

Ala Lys Tyr Cys Leu Ala Phe Ala Ser Gly Met Ala Ala Thr Val Thr
 85 90 95

Ile Thr His Leu Leu Lys Ala Gly Asp Gln Ile Ile Cys Met Asp Asp
 100 105 110

Val Tyr Gly Gly Thr Asn Gly Tyr Phe Arg Gln Val Ala Ser Glu Phe
 115 120 125

Gly Leu Lys Ile Ser Phe Val Asp Cys Ser Lys Ile Lys Leu Leu Glu
 130 135 140

Ala Ala Ile Thr Pro Glu Thr Lys Leu Val Trp Ile Glu Thr Pro Thr
 145 150 155 160

Asn Pro Thr Gln Lys Val Ile Asp Ile Glu Ala Cys Ala His Ile Val
 165 170 175

His Lys His Gly Asp Ile Ile Leu Val Val Asp Asn Thr Phe Met Ser
 180 185 190

Pro Tyr Phe Gln Arg Pro Leu Ala Leu Gly Ala Asp Ile Cys Met Tyr
 195 200 205

Ser Ala Thr Lys Tyr Met Asn Gly His Ser Asp Val Val Met Gly Leu
 210 215 220

Val Ser Val Asn Cys Glu Ser Leu His Asn Arg Leu Arg Phe Leu Gln
 225 230 235 240

Asn Ser Leu Gly Ala Val Pro Ser Pro Ile Asp Cys Tyr Leu Cys Asn
 245 250 255

Arg Gly Leu Lys Thr Leu His Val Arg Met Glu Arg His Phe Lys Asn
 260 265 270

Gly Met Ala Val Ala Gln Phe Leu Glu Ser Asn Pro Trp Val Glu Lys
 275 280 285

140

Val Ile Tyr Pro Gly Leu Pro Ser His Pro Gln His Glu Leu Val Lys
290 295 300

Arg Gln Cys Thr Gly Cys Gly Gly Met Val Thr Phe Tyr Ile Lys Gly
305 310 315 320

Thr Leu Gln His Ala Glu Ile Phe Leu Lys Asn Leu Lys Leu Phe Thr
325 330 335

Leu Ala Val Ser Leu Gly Gly Phe Glu Ser Leu Ala Glu Leu Pro Ala
340 345 350

Ser Met Thr His Ala Ser Val Leu Lys Asn Asp Arg Asp Val Leu Gly
355 360 365

Ile Ser Asp Thr Leu Ile Arg Leu Ser Val Gly Leu Glu Asp Glu Glu
370 375 380

Asp Leu Leu Glu Asp Leu Asp Gln Ala Leu Lys Ala Ala His Pro Pro
385 390 395 400

Ser Gly Ser His Ser
405

<210> 61
<211> 405
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic polypeptide

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His Phe Ala Thr Gln Ala Ile His Val Gly Gln Asp Pro Glu Gln Trp
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Thr Ser Lys Ala Leu Val Pro Pro Ile Ser Leu Ser Thr Thr Phe Lys
 35 40 45

Gln Gly Ala Pro Gly Gln His Ser Gly Phe Asn Tyr Ser Arg Leu Gly
 50 55 60

Asn Pro Thr Arg Asn Cys Leu Glu Lys Ala Val Ala Ala Leu Asp Gly
 65 70 75 80

Ala Lys Tyr Cys Leu Ala Phe Ala Ser Gly Met Ala Ala Thr Val Thr
 85 90 95

Ile Thr His Leu Leu Lys Ala Gly Asp Gln Ile Ile Cys Met Asp Asp
 100 105 110

Val Tyr Gly Gly Thr Asn Asp Tyr Phe Arg Gln Val Ala Ser Glu Phe
 115 120 125

Gly Leu Lys Ile Ser Phe Val Asp Cys Ser Lys Ile Lys Leu Leu Glu
 130 135 140

Ala Ala Ile Thr Pro Glu Thr Lys Leu Val Trp Ile Glu Thr Pro Thr
 145 150 155 160

Asn Pro Thr Gln Lys Val Ile Asp Ile Glu Ala Cys Ala His Ile Val
 165 170 175

His Lys His Gly Asp Ile Ile Leu Val Val Asp Asn Thr Phe Met Ser
 180 185 190

Pro Tyr Phe Gln Arg Pro Leu Ala Leu Gly Ala Asp Ile Cys Met Tyr
 195 200 205

Ser Ala Thr Lys Tyr Met Asn Gly His Ser Asp Val Val Ile Gly Leu
 210 215 220

Val Ser Val Asn Cys Glu Ser Leu His Asn Arg Leu Arg Phe Leu Gln
 225 230 235 240

Asn Ser Leu Gly Ala Val Pro Ser Pro Ile Asp Cys Tyr Leu Cys Asn
 245 250 255

Arg Gly Leu Lys Thr Leu His Val Arg Met Glu Arg His Phe Lys Asn
 260 265 270

Gly Met Ala Val Ala Gln Phe Leu Glu Ser Asn Pro Trp Val Glu Lys
 275 280 285

Val Ile Tyr Pro Gly Leu Pro Ser His Pro Gln His Glu Leu Val Lys
 290 295 300

Arg Gln Cys Thr Gly Cys Gly Gly Met Val Thr Phe Tyr Ile Lys Gly
 305 310 315 320

Thr Leu Gln His Ala Glu Ile Phe Leu Lys Asn Leu Lys Leu Phe Thr
 325 330 335

Leu Ala Val Ser Leu Gly Gly Phe Glu Ser Leu Ala Glu Leu Pro Ala
 340 345 350

Ser Met Thr His Ala Ser Val Leu Lys Asn Asp Arg Asp Val Leu Gly
 355 360 365

Ile Ser Asp Thr Leu Ile Arg Leu Ser Val Gly Leu Glu Asp Glu Glu
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Asp Leu Leu Glu Asp Leu Asp Gln Ala Leu Lys Ala Ala His Pro Pro
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Ser Gly Ser His Ser
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<210> 62
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 <212> PRT
 <213> Artificial Sequence

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 <223> Synthetic polypeptide

<400> 62

Met Gln Glu Lys Asp Ala Ser Ser Gln Gly Phe Leu Pro His Phe Gln
 1 5 10 15

His Phe Ala Thr Gln Ala Ile His Val Gly Gln Asp Pro Glu Gln Trp
 20 25 30

Thr Ser Lys Ala Leu Val Pro Pro Ile Ser Leu Ser Thr Thr Phe Lys
 35 40 45

Gln Gly Ala Pro Gly Gln His Ser Gly Phe Asn Tyr Ser Arg Leu Gly
 50 55 60

Asn Pro Thr Arg Asn Cys Leu Glu Lys Ala Val Ala Ala Leu Asp Gly
 65 70 75 80

Ala Lys Tyr Cys Leu Ala Phe Ala Ser Gly Met Ala Ala Thr Val Thr
 85 90 95

Ile Thr His Leu Leu Lys Ala Gly Asp Gln Ile Ile Cys Met Asp Asp
 100 105 110

Val Tyr Gly Gly Thr Asn His Tyr Phe Arg Gln Val Ala Ser Glu Phe
 115 120 125

Gly Leu Lys Ile Ser Phe Val Asp Cys Ser Lys Ile Lys Leu Leu Glu
 130 135 140

Ala Ala Ile Thr Pro Glu Thr Lys Leu Val Trp Ile Glu Thr Pro Thr
 145 150 155 160

Asn Pro Thr Gln Lys Val Ile Asp Ile Glu Ala Cys Ala His Ile Val
 165 170 175

His Lys His Gly Asp Ile Ile Leu Val Val Asp Asn Thr Phe Met Ser
 180 185 190

Pro Tyr Phe Gln Arg Pro Leu Ala Leu Gly Ala Asp Ile Cys Met Tyr
 195 200 205

Ser Ala Thr Lys Tyr Met Asn Gly His Ser Asp Val Val Ile Gly Leu
 210 215 220

Val Ser Val Asn Cys Glu Ser Leu His Asn Arg Leu Arg Phe Leu Gln
 225 230 235 240

Asn Ser Leu Gly Ala Val Pro Ser Pro Ile Asp Cys Tyr Leu Cys Asn
 245 250 255

Arg Gly Leu Lys Thr Leu His Val Arg Met Glu Arg His Phe Lys Asn
 260 265 270

Gly Met Ala Val Ala Gln Phe Leu Glu Ser Asn Pro Trp Val Glu Lys
 275 280 285

Val Ile Tyr Pro Gly Leu Pro Ser His Pro Gln His Glu Leu Val Lys
 290 295 300

Arg Gln Cys Thr Gly Cys Gly Gly Met Val Thr Phe Tyr Ile Lys Gly
 305 310 315 320

Thr Leu Gln His Ala Glu Ile Phe Leu Lys Asn Leu Lys Leu Phe Thr
 325 330 335

Leu Ala Val Ser Leu Gly Gly Phe Glu Ser Leu Ala Glu Leu Pro Ala
 340 345 350

Ser Met Thr His Ala Ser Val Leu Lys Asn Asp Arg Asp Val Leu Gly
355 360 145 365

Ile Ser Asp Thr Leu Ile Arg Leu Ser Val Gly Leu Glu Asp Glu Glu
370 375 380

Asp Leu Leu Glu Asp Leu Asp Gln Ala Leu Lys Ala Ala His Pro Pro
385 390 395 400

Ser Gly Ser His Ser
405

<210> 63
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<213> Artificial Sequence

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<223> Synthetic polypeptide

<400> 63

Met Gln Glu Lys Asp Ala Ser Ser Gln Gly Phe Leu Pro His Phe Gln
1 5 10 15

His Phe Ala Thr Gln Ala Ile His Val Gly Gln Asp Pro Glu Gln Trp
20 25 30

Thr Ser Lys Ala Leu Val Pro Pro Ile Ser Leu Ser Thr Thr Phe Lys
35 40 45

Gln Gly Ala Pro Gly Gln His Ser Gly Phe Asn Tyr Ser Arg Leu Gly
50 55 60

Asn Pro Thr Arg Asn Cys Leu Glu Lys Ala Val Ala Ala Leu Asp Gly
65 70 75 80

Ala Lys Tyr Cys Leu Ala Phe Ala Ser Gly Met Ala Ala Thr Val Thr
85 90 95

Ile Thr His Leu Leu Lys Ala Gly Asp Gln Ile Ile Cys Met Asp Asp
 100 105 110

Val Tyr Gly Gly Thr Asn Ala Tyr Phe Arg Gln Val Ala Ser Glu Phe
 115 120 125

Gly Leu Lys Ile Ser Phe Val Asp Cys Ser Lys Ile Lys Leu Leu Glu
 130 135 140

Ala Ala Ile Thr Pro Glu Thr Lys Leu Val Trp Ile Glu Thr Pro Thr
 145 150 155 160

Asn Pro Thr Gln Lys Val Ile Asp Ile Glu Ala Cys Ala His Ile Val
 165 170 175

His Lys His Gly Asp Ile Ile Leu Val Val Asp Asn Thr Phe Met Ser
 180 185 190

Pro Tyr Phe Gln Arg Pro Leu Ala Leu Gly Ala Asp Ile Cys Met Tyr
 195 200 205

Ser Ala Thr Lys Tyr Met Asn Gly His Ser Asp Val Val Ile Gly Leu
 210 215 220

Val Ser Val Asn Cys Glu Ser Leu His Asn Arg Leu Arg Phe Leu Gln
 225 230 235 240

Asn Ser Leu Gly Ala Val Pro Ser Pro Ile Asp Cys Tyr Leu Cys Asn
 245 250 255

Arg Gly Leu Lys Thr Leu His Val Arg Met Glu Arg His Phe Lys Asn
 260 265 270

Gly Met Ala Val Ala Gln Phe Leu Glu Ser Asn Pro Trp Val Glu Lys
 275 280 285

Val Ile Tyr Pro Gly Leu Pro Ser His Pro Gln His Glu Leu Val Lys
 290 295 300 147

Arg Gln Cys Thr Gly Cys Gly Gly Met Val Thr Phe Tyr Ile Lys Gly
 305 310 315 320

Thr Leu Gln His Ala Glu Ile Phe Leu Lys Asn Leu Lys Leu Phe Thr
 325 330 335

Leu Ala Val Ser Leu Gly Gly Phe Glu Ser Leu Ala Glu Leu Pro Ala
 340 345 350

Ser Met Thr His Ala Ser Val Leu Lys Asn Asp Arg Asp Val Leu Gly
 355 360 365

Ile Ser Asp Thr Leu Ile Arg Leu Ser Val Gly Leu Glu Asp Glu Glu
 370 375 380

Asp Leu Leu Glu Asp Leu Asp Gln Ala Leu Lys Ala Ala His Pro Pro
 385 390 395 400

Ser Gly Ser His Ser
 405

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